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ORIGINAL ARTICLES.

TREATMENT OF UTERINE FIBROIDS ERGOT.

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The physiologic actions of ergot are accounted for by its effects upon unstriped muscular fiber. It contracts blood vessels everywhere, thereby increasing the blood tension. The uterus, formed as it is by an enormous proportion of smooth muscular structure, is particularly susceptible to the peculiar action of ergot. It acts upon the uterus in four ways:

1. It decreases the whole bulk of the organ by producing a steady tonic contraction of all its muscular fibers; 2, it decreases the whole bulk of the organ by decreasing the amount of blood in its walls, as a result of contracting its blood vessels; 3, by decreasing the amount of blood in the uterus (by contracting its muscular bulk and by contracting its blood vessels) it modifies materially its nutrition and decreases the amount of the menstrual flow of blood; 4, when given in large doses it not only produces tonic contractions of the muscular fibers of the uterus, but, by instituting clonic contraction of its fibers, expulsion of natural and foreign bodies from its walls and cavity is effected.

Upon these thoroughly demonstrated effects of ergot has grown up a rational and very successful medical treatment of fibroids of the uterus. Before surgery and electricity found favor in the experience of gynecologists, as remedies which did their work with greater expedition, if not with more certain results, ergot for many years was depended upon, not only as a symptomatic remedy for fibroids but as a valuable curative agent.

The mode of action of ergot on fibroids of the uterus when considered in the light of its effect upon the normal uterus, can be easily understood.

An interstitial fibroid is affected by ergot in three ways: First, by the pressure exerted on the uniformly distributed fibro-myomatous fibers by the normal uterine tissue which everywhere surrounds them which has been stimulated to firm contraction by the drug; second, by a tendency of the hypertrophied fibro-myomatous fibers themselves to firmly contract under the abnormal stimulant. The result of this pressure upon the abnormal tissue is to produce atrophy. A third effect of ergot upon an interstitial fibroid of the uterus which favors its atrophy and decreases uterine hemorrhage, is the diminution of its blood supply from the contraction of its arterioles.

Intramural fibroids are also affected in three ways: 1, pressure atrophy from the firm contractions of the normal uterine tissue surrounding the masses; 2, atrophy and decrease of uterine hemorrhage, diminution of their blood supply as a direct result of contraction of the arterioles; 3, a tendency for them to be expelled from the walls or the uterus in the direction of least resistance, as a result of the persistent contraction of the normal uterine tissue surrounding the masses.

Submucous fibroids, which are but a form of the intramural variety, are influenced in the same manner by ergot as is the simple intramural, while its cure is also sometimes effected by the expulsive contractions of the uterus, which force it first beneath the mucous membrane as a pedunculated mass, and finally expel it bodily from its cavity.

Subperitoneal fibroids, which also are but a form of the intramural variety, are influenced practically the same as that class, except that the influence of muscular contraction diminishes as the tumors become more subperitoneal and more pedunculated. The expulsion of the subperitoneal variety is not aided by the expulsive power of the uterus.

INDICATIONS FOR ERGOTIN TREATMENT.

The most favorable case for ergotin treatment in which a complete cure may be looked for is the intramural variety which consists of one or few centers of development, with these centers situated in close proximity to the mucous membrane. The uterus in such a case is considerably enlarged, the canal is long and tortuous, the symptom of uterine hemorrhage is conspicuous and the normal muscular tissue of the uterus is hypertrophied. Ergot given in such a case in large doses, continued for some weeks, will cause the hypertrophied muscles of the uterus to contract and to gradually squeeze the fibromatous center first toward the mucous membrane, then beneath the mucous membrane and finally into the uterine cavity, where the uterine expulsive pains will effect its deliverance. The enucleation of such a tumor can be materially assisted, as it should be, by incising its capsule as it begins to protrude beneath the mucous membrane.

When such a center or centers are expelled effectually the uterine pains will cease, the hemorrhage will lessen and the uterus will soon be found of normal size.

Pediculated fibroids are somewhat differently affected by ergot when they are submucous than when subperitoneal. If the uterus is considerably enlarged and the normal muscular tissue of the organ is hypertrophied, there is some hope that the pedicle of a subperitoneal pediculated fibroid will gradually become restricted by the uterine contractions, the nourishment of the tumor supplied by the pedicle be diminished thereby, and as a consequence a gradual atrophy of the stranded mass. While this *may* occur with a subperitoneal tumor, it may be counted on much more surely if the tumor is submucous.

In the *submucous pediculated* fibroid the nourishment of the pendant tumor is not only impaired by the constriction of its pedicle's base, but the expul-

sive effort of the uterus itself will, in its effort to rid itself of the foreign body, stretch and thin its pedicle until its blood vessels are eradicated and its tumor decreases from starvation. Sometimes the decrease is only partial from some small amount of blood still gaining access to the mass. Under either circumstances it remains but to catch the growth in a forceps and to twist it from its weak stem. The uterus then contracts to its normal state if there are no other centers of development.

A true interstitial fibroid is seldom, if ever, cured by ergot. While the muscular fibers of the uterus are often enormously developed, there are no distinct masses for them to work on when stimulated to contraction; nothing for them to get rid of but their fellow fibers. In this they may partially succeed by producing atrophy of one another by pressure, and by lessening the blood supply by contracting their blood vessels. This, however, experience has taught us is a slow method of diminishing a fibroid tumor. If large doses are systematically administered for a long time menorrhagia can often be materially benefited, but seldom permanently relieved.

Prof. W. H. Byford, who was the first in this country to publish results from the treatment of fibroid tumors by ergot, after Hilderbrondt had published his work in this line in Europe, begins his chapter on the subject as follows: "1. When properly administered, ergot frequently greatly ameliorates some of the troublesome and even dangerous symptoms of fibrous tumors of the uterus, *e. g.*, hemorrhage and copious leucorrhea. 2. It often arrests their growth and checks hemorrhage. 3. In many instances it causes the absorption of the tumor, occasionally without giving the patient any inconvenience; at other times removal of the tumor by absorption is attended by painful contractions and tenderness of the uterus. 4. By inducing uterine contraction it causes the expulsion of the polypoid variety. 5. In the same way it causes the disruption and discharge of the submucous tumor."

METHOD OF ADMINISTRATION.

According as the physician seeks a mild or an active effect of ergot should he regulate his dose. In the first instance ergot is administered in doses just sufficiently large to maintain a tonic contraction of the arterioles and of the uterine tissue without producing the pain which is a constant accompaniment of the violent clonic contractions of the uterus. When the active effects of ergot are sought, large and often repeated doses are administered in such a manner as to obtain prompt and full physiologic effects of the drug.

When mild effects are sought ergot can usually be administered by the stomach. For this purpose I usually employ the purified extract called ergotin, administered in the form of capsules. Capsules containing from three to five grains each, given at intervals of four to six hours, will seldom disagree with the patient. Intervals of six hours, unless active effects are desired, are short enough. Frequently the dose of five grains will be too large for a simple tonic potion. I frequently give the ergotin in two-grain doses in capsule embined with one-fourth of a grain of the extract of nux vomica, distributing the doses so that they are taken before meals and at bedtime. Ergot can be given with good results in mild doses in rectal suppositories. Occasionally it will be tolerated in the form of the fluid extract by the mouth. There is very little occasion, however, if a patient can take a capsule, for submitting them to this nauseating dose.

When we desire to obtain the active effects of ergot some management is necessary in order to get into the system of an ordinary woman a sufficient dose of the drug, without at the same time disturbing the functions of the digestive organs.

Ergotin in capsules, in five and ten grain doses, frequently will be tolerated by the stomach almost indefinitely. Occasionally a much smaller dose will be utterly rejected. Ergotin then may be administered in eight to ten or fifteen grain rectal suppositories. The physiologic effects, in a decided manner, may frequently be obtained in this manner. The lower bowel should be kept clear of all fecal matter and the suppository placed high. They may be administered as often as every six hours. Suppository tubes may be employed to advantage for the purpose of placing the suppository mixture higher in the bowel than is possible with the ordinary suppository. Small rectal enemas of the fluid extract may be employed as a means of obtaining the active effects of the drug.

Hypodermic injections of fluid preparations of ergot succeed in obtaining the promptest and most efficient physiologic effects of the drug, while they possess the objection of producing not a little pain and occasionally abscesses. The abscesses may be avoided by attention to aseptic principles, and the pain can be materially avoided by selecting non-sensitive portions of the skin combined with deep injections, and by the employment of a mixture containing one of the less harmful sedatives, as chloral hydrate or belladonna.

Pozzi recommends the following formula for hypodermic use:

℞.	Ergotin	gr. lxxv
	Chloral hydrate	gr. xv
	Aqua distil	ad ʒ iii
Sig.	Twelve minims injected daily.	

W. H. Byford says: "Most American practitioners now use Dr. Squibb's preparation (purified solid extract), some of them by dissolving it in pure water, while others add to the water a small amount of pure glycerin. Dr. Squibb recommends a solution of this extract as follows: Dissolve two hundred grains of the extract in two hundred and fifty minims of water by stirring; filter the solution through paper, and make up to three hundred minims by washing the residue on the filter with a little water. Each minim of this solution represents six grains of ergot in powder. Of this solution from ten to twenty minims are injected once daily or once in two days. This is the only preparation I have used in hypodermic injections, and I believe it is the best we can at present procure." It has been several years since I have used ergot hypodermically; the last that I did employ was prepared practically as given in Dr. Byford's formula.

DURATION OF TREATMENT.

As ergot at best can scarcely be termed an actual curative agent for fibroid of the uterus (except in rare instances) it follows that the duration of treatment must vary entirely with the case in hand, the results sought, and the judgment of the particular physician treating the case.

If the case is an ordinary bleeding interstitial fibroid of uniform contour, in which there seems to be no sub-mucous projections which we might hope to expell by means of heroic doses of ergot, small doses of from two to five grains each of ergotin in capsules

might be given three times a day for several months. The effect sought being a general vasomotor tonic action with a special predilection for uterine vasoconstriction, and uterine shrinkage due to long continued tonic muscular contraction of the organ. The subjective results being diminution of the menstrual discharge, pressure symptoms lessened and an improvement in flesh and strength.

If the case is a sub-mucous fibroid in which the attempt is to be made to accomplish the expulsion of the mass by contraction of the uterus stimulated by heroic doses, ergotin in form of large suppositories, or better, in hypodermic injections will be administered until the result is accomplished. When the tumor is expelled the remedy is immediately suspended.

If the case is one of interstitial bleeding fibroid and the object is to control or to modify the monthly flow of blood, ergot in good full doses, either by capsules, suppository, or hypodermic injections, should be commenced a few days before the menstrual period, and be continued until the flow has ceased, when it can be discontinued until a week before the next menstruation.

So that one must take into consideration the physiologic effects of the drug, under its varying doses, take into consideration the variety and character of the tumor and with these well in hand he must exercise his judgment in making his application in each individual case.

RESULTS.

The results obtained in the treatment of fibroid tumors of the uterus by ergot, depends much upon the sincerity and peristency of the physician who is conducting the treatment. If he is sincerely desirous of exhausting the resources of ergot in these cases before resorting to more radical means, or better, if he is opposed to any more radical treatment than the ergot treatment for fibroids, combined of course with rational hygienic and general tonic treatment, he will be sure to benefit a large percentage of his cases, and possibly a small percentage will become actually cured. Unfortunately now, in the light of the more precise and comparatively safe surgical procedures, and the more accurate, agreeable, if not more efficient electrical treatment, the slower, more disagreeable and painful medical treatment by ergot, is, I am afraid, too much slighted by practitioners. As the treatment is old, but one of the meritorious relics of pre-surgical days, I can only indicate its real value by quoting some of the statistics gathered by those who practiced it enthusiastically if not almost exclusively.

One of the last statistical papers of value written on this subject was one read at the Ninth International Medical Congress, held at Washington in 1887, by Prof. D. T. Nelson, of Chicago. In that paper he reported 153 cases treated by ergot, representing the reports of about one hundred physicians. The method of administering the drug was seldom described by the reporters. As a circular letter was sent to over 4,000 physicians, and that the 100 physicians replying almost invariably reported successes, there may be grounds for believing that had many more reported the answer might not have been so uniformly favorable. The following is a brief summary of the 153 cases, as given in Dr. Nelson's words:

"The small number of cases as not affected by ergot is quite remarkable, but two of the 153 cases. All the 153 cases were benefited by the ergot, more or less, except these two. Seventy-nine were cured, tumor absorbed or expelled. In 61 other cases the tumors are smaller and their growth controlled, and there is every promise, with ergot, and perhaps without, that they will not again endanger life." There were 11 deaths in the 153 cases. "In cases 12, 13 and 17 ergot seemed to control the disease, and had it been continued favorable results were to be expected. Cases 16 and 29 died of septicemia after the expulsion of the tumor; such cases in future it is hoped, by improved methods, we may usually save. Cases 53 and 59 died only indirectly from the tumor, perhaps from embolism, the ergot having expelled or absorbed the tumor before death. In cases 79 and 123 pregnancy was an important factor in the unfavorable result." Cases 93 and 143 also died. Thus of the 153 cases, 140 remain cured or benefited.

Prof. W. H. Byford reports in his "Diseases of Women" 101 cases, including 27 of Hilderbrant's, 9 of his own, 14 of White's of Buffalo, and the remainder from a score of physicians. He summarizes them as follows:

"The total number of cases here cited is 101. Twenty-two of them are reported cured. In 39 more the tumors were diminished in size and the hemorrhage and other disagreeable symptoms removed. Nineteen of the remainder were benefited by the relief of the hemorrhages and leucorrheal discharges, while the size and other conditions of the tumors were unchanged. Out of the whole number only 21 cases entirely resisted the treatment. This shows results decidedly favorable in 80 of the 101 cases."

MEMBRANOUS DYSMENORRHEA.

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The diversity of opinion which exists as to the causes of membranous dysmenorrhea, with its comparative rarity, makes each case an object of interest to the gynecologist. During the past eighteen months I have had under observation a case of more than ordinary severity and obstinacy. The principal facts in the case are briefly these:

Mrs. L. age 26, married and sterile, menstruated first when 13½ years of age. Menstruation was painless and regular up to the age of 18. At that time the flow suddenly stopped after continuing two days, the cessation being followed by the usual symptoms of pelvic disturbance. One year later patient had an attack of what was probably a vaginitis accompanied by cystitis. There was heat and burning in the vagina, a profuse leucorrhea, and frequent desire to urinate, the act being accompanied by smarting and burning. The painful menstruation, however, dates from the 18th year. Soon after its beginning the coming away of the membrane was noticed. The size of the membrane, according to the patient, increased from month to month for a year or more, and has never been absent from the beginning. In August, 1894, soon after the patient came under my observation, I obtained an entire membrane, including the uterine glands, and recently I obtained another almost as complete.

Physical examination showed a small os filled with granulations, the result of a mild cervical catarrh, uterus enlarged, nearly three and a half inches deep, and very sensitive. Region of ovaries sensitive to deep pressure; a more sensitive point, however, was over the solar plexus.

Patient is anemic and nervous, muscles are soft and flabby. Her former weight was from 127 to 130 pounds, but she now weighs only 105 pounds. The pain of each menstruation is very severe. It begins a day or more before the membrane is cast off, reaches its height at the expulsion of the membrane, then gradually subsides, disappearing only a day or more after the extrusion of the membrane. There has been much stomach disturbance, distress after eating and vomiting, especially in the morning. Stomach disturbance is worse during the menstrual period.

In treating this case the cervix was incised and dilated, the curette thoroughly used over the entire uterine cavity and equal parts of tincture of iodin and carbolic acid applied to the entire cavity of the uterus. These applications were repeated once or twice weekly after curetting. For three menstrual periods after the curetting the pain was not so severe, though small pieces of membrane came away each time. Under tonic treatment, too, the patient's general health improved, and she gained three pounds in weight. All discharge from the uterus ceased in a short time, the cervical endometritis disappeared entirely. In spite, however, of the applications almost an entire cast of the uterus came away during the last menstruation, while under observation, and the accompanying pain was nearly as great as before the dilation and curetting.

A second case came under my observation in August last. This case, however, differed essentially from the one just described. This patient was a married woman who had borne several children, was well nourished, florid and healthy in appearance, but of a decidedly neurotic temperament. She sought relief for painful and excessive menstruation, the flow being accompanied by clots and shreds of organized membrane. These shreds were examined on several occasions, but no utricular glands were found. Physical examination in this case showed the uterus to be considerably enlarged and sensitive, and there was here the same sympathetic disturbances as those described in case No. 1, but in a minor degree. Here the same means were employed as in the first case, but not with complete success. Though the uterus was found to be three-quarters of an inch shorter than before curetting, the next flow was not entirely painless and some shreds of membrane were extruded. This patient has now quite regained her normal health. Her last menstruation was without pain, but she has not menstruated for over two months, and has probably reached the climacteric.

A notable feature of this case was the excessive amount of bladder disturbance. It was probably the relic of a former inflammation, excited by the same cause which produced the endometritis. While there was no pus and scarcely more than the normal amount of mucus secreted, there was found, on microscopic examination, an excessive amount of pavement epithelial cells, often adhering in groups so as to be visible in the urine as flecks.

The literature of membranous dysmenorrhea is scanty and unsatisfactory. A report of the post-mortem appearance of a uterus subject to this disease is not to be found. Nearly all modern writers, especially those of Europe, regard it as a result of metritis. Schroeder remarked that "chronic catarrh is so often found it may be regarded as the cause of the disease." August Martin, Pozzi, and Lawson Tait express similar views. The last mentioned author recites the history of several cases inflammatory in their origin, in which there was specific urethritis in the husband, and concludes that the membranes are fruitless pregnancies resulting from partial sterility in the male. Mr. Tait also states that he has never known the disease to occur in a virgin. Other authors are silent upon this subject, but the cases to which I have access occurred in married women, or in those whose virginity at the time the disease appeared could not be easily proved.

It is difficult to believe that this periodic desquamation of the whole lining membrane of the uterus is always the result of inflammation. The membrane itself is often not an inflammatory product. It has all the histologic characteristics of a normal membrane overgrown. The disease occurs, too, in cases where the ordinary signs of metritis are absent. (Skene, Diseases of Women, p. 235; Thomas, Dis. of Women, p. 622.) Lastly, uterine inflammations, metritis and endometritis are very common, while membranous dysmenorrhea is so infrequent that it violates all logic to regard the two as cause and effect.

Skene, Thomas, Wylie and many of the older writers, both of America and Europe, regard the formation of the membrane as the result of an abnormal nerve stimulus. It has been called by Oldham an "ovarian stimulus" and by Simpson "an exaggeration of a normal condition, or an exalted degree of physiologic action."

In the absence of demonstrable facts conclusions become unprofitable speculation. In the cases which are reported here one is impressed with the amount of sympathetic nerve disturbance, especially in the first case. There is tenderness upon pressure over the entire abdomen, an especially sensitive point being over the region of the solar plexus. Whether this disturbance is the cause or effect of the trophic change in the uterus is not plain. The severity of the pain each month, and its prolonged duration, however, seem to be sufficient to account for the nerve irritation.

It would be interesting to know whether the enlargement of these uteri is the result of a true hypertrophy and whether, as in the normal hypertrophy of pregnancy, the decidua is cast off in the absence of a vitalized ovum. A true hypertrophy of the non-pregnant uterus is probably a very rare disease (Martin, Frauenkrankheiten, p. 69); but there is no good reason for believing that it does not exist. It is, however, quite likely that Scanzoni was right when he concluded that the disease may be either hypertrophic as the result of sympathetic nerve disturbance, or pseudo-hypertrophic, resulting from long continued inflammation.

ON MEMBRANES DISCHARGED FROM THE UTERUS.

Read before the Chicago Pathological Society, Jan. 13, 1896.

BY EMIL RIES, M.D.

CHICAGO.

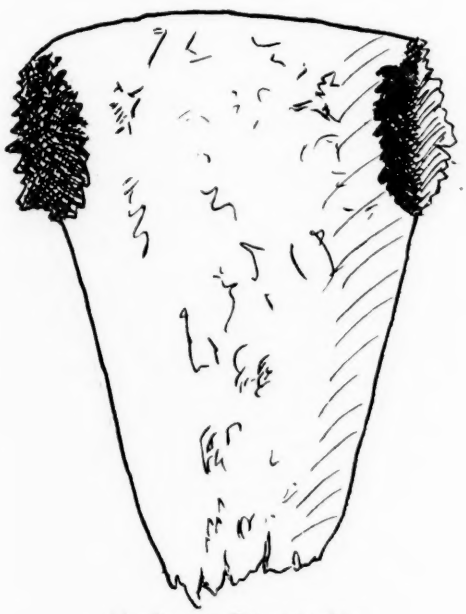
The gynecologist often receives for examination membranes which, he is told, have been discharged from the uterus. Unfortunately he often receives them in a stage of decomposition which makes them hardly fit for microscopic examination. The cause of this may be that the membrane has been retained in the vagina for some time before it was discharged, or that after discharge it has not been preserved with sufficient care. If the membranes are kept in water or in weak solutions of alcohol the decomposition may

go so far that the epithelium is thrown off from the surface and from the glands, and the cells of the interstitial tissue stain very badly or not at all. Let me draw your attention to the importance of the careful preservation of such membranes in concentrated alcohol or in a 20 per cent. solution of formol. The shrinking which may be caused by the alcohol is far less injurious as regards microscopic examination than the decomposition.

The first question which we have to consider when we examine such membranes, is whether they are really discharged from the uterine cavity or not. This question is easily answered in the affirmative, if the membranes form a faithful cast of the uterine cavity. (Figs. 1, 4, 7, 10). The best preserved specimens are three-cornered sacks with a cavity inside. But very often we receive nothing but shreds.

Macroscopic examination can sometimes show directly that the membrane did not come from the cavity of the uterus. Thus we often see shreds of various sizes discharged after vaginal treatment with strong solutions of ichthyol or acetate of lead in glycerin or with tincture of iodin and other astringents. These shreds are discharged without pain and are often found covering tampons which had been applied saturated with one of the solutions just mentioned. These shreds are whitish or brown, the color depending on the remedy previously applied; they are always very thin, as is easily understood after microscopic examination has shown that they consist of the superficial epithelial layers of the mucous membrane which covers the vagina and the vaginal portion. The cells are large, flat, polygonal; they lie closely together without interstitial tissue; they contain a nucleus, which stains readily, and a very clear protoplasm. If seen from the surface a mistake about the nature of these cells is almost impossible, but if sections have been made in a transvere direction the flat cells may appear like spindle-cells and thus a wrong idea as to the nature of these cells may originate in the inexperienced. The microscopic aspect described above, especially the observation that the cells lie closely together and that their protoplasm does not stain must prevent such errors. It needs no further evidence to prove that these membranes are without importance. A few days' rest from treatment and the vaginal mucous membrane will be repaired.

Fig. 1.



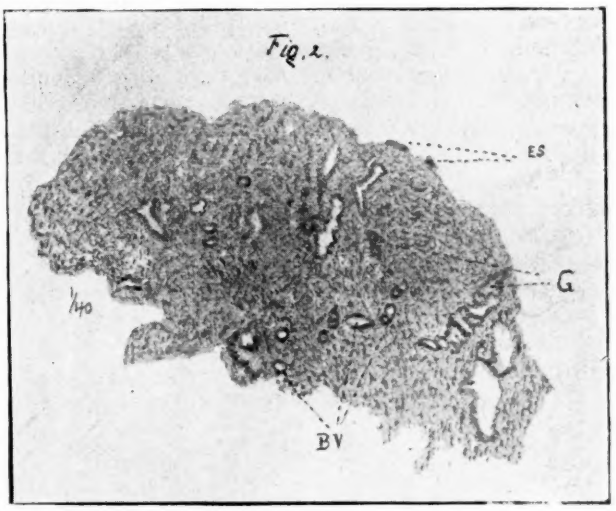
Membranous Dysmenorrhea.

Membranes of quite a different size and of very grave importance are sometimes discharged in cases of puerperal inflammation of the uterus. They are sometimes so bulky that it would be a misapplication of the term were we to call them membranes. They generally have a very disagreeable smell; are soft, sloughing masses and on microscopic examination prove to be parts of the muscular wall of the uterus, containing muscle cells in great quantities. The observation of such shreds establishes the diagnosis of metritis dissecans, a condition in which inflammation of the uterus produces necrosis of the muscular tissue, parts of which slough away and are discharged in shreds of various size.

Excluding the two kinds of membranes just described, membranes can be discharged from the uterus under the following conditions: 1, dysmenorrhea membranacea; 2, pregnancy in a normal uterus; 3, extra-uterine pregnancy; 4, pregnancy in one horn of a double uterus, which can be *a*, fully developed, *b*, rudimentary.

The great difference in the pathologic importance of the conditions just mentioned renders a full investigation of the membranes discharged in such cases very useful and sometimes indispensable for an exact diagnosis. For instance the membranes of membranous dysmenorrhea and extra-uterine pregnancy may so much resemble one another macroscopically, that they can not be distinguished without microscopic examination, and the same holds good in certain cases of differential diagnosis between intra-uterine and extra-uterine pregnancy. I shall present a full description of the various membranes and shall then compare them with each other, so as to show the more clearly their similitudes and dissimilitudes.

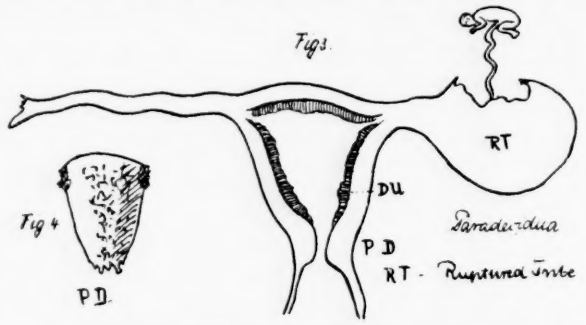
Fig. 2.



ES, epithelium on surface; G, glands; BV, blood vessels.

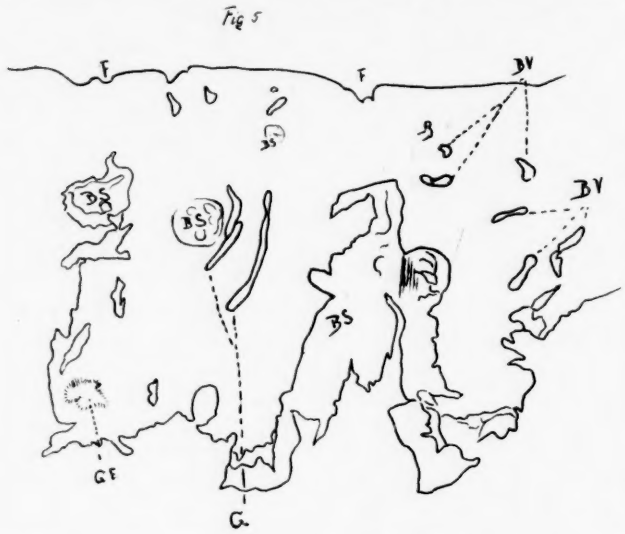
In menstruation sometimes membranes or clot-like masses are discharged which may be of three-cornered shape representing faithful casts of the uterine cavity. (Fig. 1.) Sometimes only small, soft shreds of such membranes are passed. The most important clinical symptom which accompanies the discharge of these masses is severe colic-like pain, which often stops

after the membranes are expelled. The blod-clots discharged are solid bodies, they do not contain a central cavity, their surface is smooth. The shreds of membranes are sometimes very small and often escape unobserved, if the woman pays no special attention to her menstrual flow. If three-cornered membranous sacks are discharged they present a shaggy surface, the corners present irregular openings with ragged borders leading into a central cavity. If the sack is cut open its interior surface is seen to be crossed with shallow furrows and perforated with a great number of minute openings which correspond to the mouths



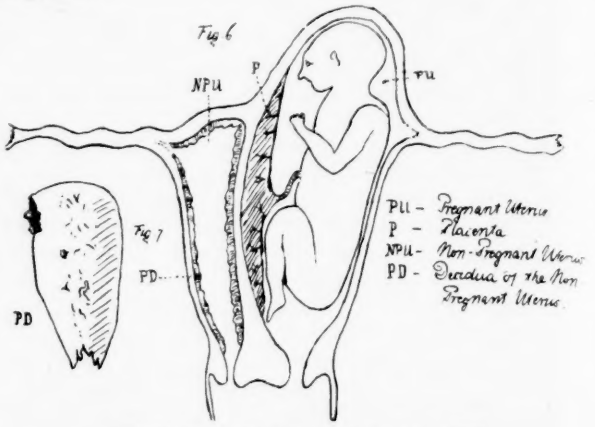
Extra-uterine Pregnancy.

of the uterine glands. On microscopic examination the blood-clots are seen to be largely composed of red blood corpuscles more or less changed in form, between them are white blood corpuscles and the whole clot is held together by a mesh-work of threads of fibrin radiating around and through masses of blood-corpuscles. Of the epithelium of the surface of the uterine mucous membrane or of the glands or of interstitial tissue there is nothing to be found on or in the clot. The membranes which are sometimes found in the menstrual discharge are composed of the superficial layers of the mucous membrane of the uterus. (Fig. 2.) They contain therefore uterine glands, interstitial tissue, superficial epithelium and blood vessels. The epithelium of the surface is often lost on account of bad preservation of the specimen, but if found it presents a normal aspect. The glands are often hypertrophied as is recognized by their tortuous course. The interstitial tissue contains the normal cells of the areolar tissue of the uterine mucosa and is not changed into decidua.



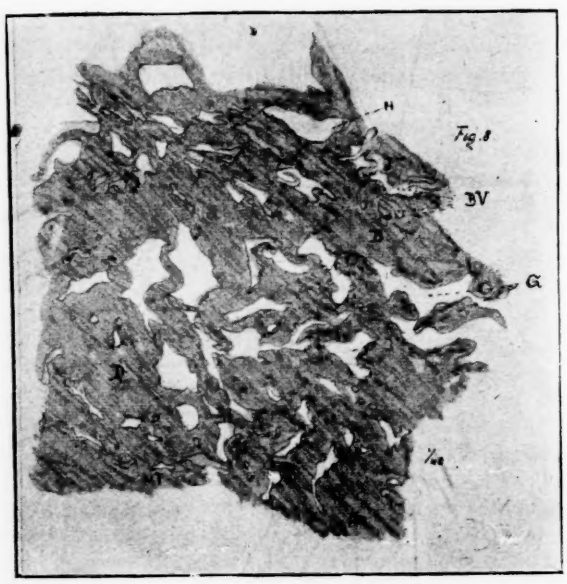
F, furrows on surface of decidua; GE, gland with epithelium; G, gland without epithelium; BV, blood vessels; BS, blood sinus.

This latter fact, the absence of a decidua in cases of membranous dysmenorrhea is worth dwelling upon a little longer. Some authors have called the membranes discharged in this disease "decidua menstrualis" and this has led to errors, as some have been induced by this name to believe that these membranes are of similar construction as the real decidua. It is necessary expressly to state that these membranes have nothing whatever to do with pregnancy and that they are not composed of decidual cells. It is therefore better to avoid the name of "decidua menstrualis" altogether.



Pregnancy in one Horn of a Double Uterus.

The connective tissue in these membranes is not changed into decidua cells, it has the same aspect as in the normal or endometritic uterine mucosa. It may contain round-cell infiltrations, or the cells may be pushed asunder by edema or hemorrhage. The blood vessels of these membranes are generally empty or contain only the shadows of red blood corpuscles. The vessels are generally of capillary size, so that arteries and veins can not be distinguished. One side of the membranes, the side which had been in connection with the uterine wall is always most irregular in outline, causing the shaggy appearance on macroscopic examination. Here the tissue is generally infiltrated with blood, which sometimes is found adherent to the outer surface in small clots.

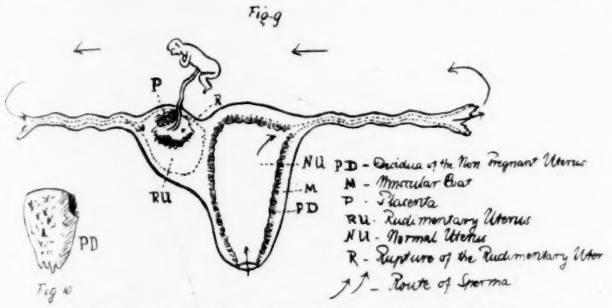


H, hemorrhage; HT, hemorrhagic tissue; G, glands; D, decidua BV, blood vessels.

The discharge of parts of the mucous membrane of the uterus is a decidedly rare and abnormal occurrence. I mention this specially because Dr. Johnstone has recently tried to reëstablish the old and abandoned theory that in normal menstruation the superficial strata of the uterine mucous membrane are shed. The most reliable investigations of Gebhard, of Berlin, and other microscopists have on the contrary proved beyond doubt that in normal menstruation as a rule no tissue is destroyed and that shedding of some strata of the mucous membrane is always abnormal. Specimens taken from corpses can never disprove this and specimens of the uterine mucous membrane removed from the normal living uterus during menstruation invariably prove that nothing is destroyed or shed. The tissue is infiltrated with hemorrhages which break through the superficial epithelium and may occasionally tear off a few epithelial cells in bursting through them. But the mucous membrane as an organ is not thrown off in normal menstruation.

We have now to consider the membranes which are produced in, and sometimes expelled from the uterus in connection with pregnancy, whether this pregnancy occurs inside the uterus or outside.

If the fetus is inside the uterus the mucous membrane of the uterus produces the decidua vera, serotina and reflexa. The serotina represents part of the



Pregnancy in the Rudimentary Horn of a Double Uterus.

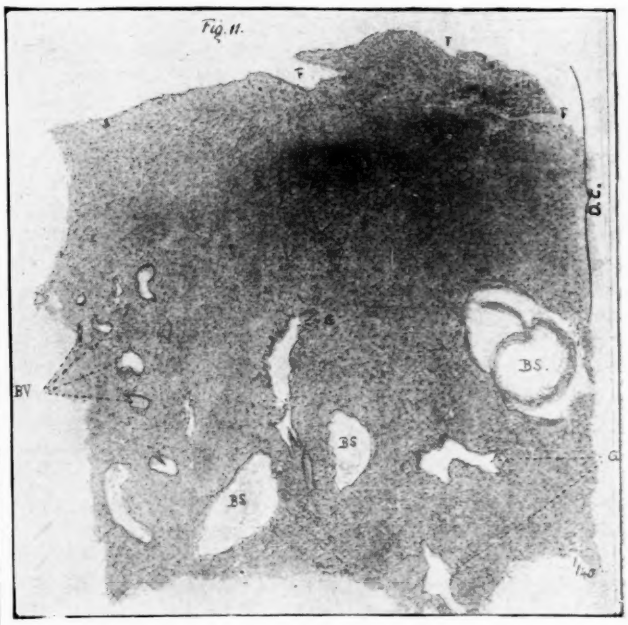
placenta and is therefore partly removed in connection with the placenta. The reflexa may be retained, if parts of the fetal membranes are retained and may be discharged with them. The vera may be discharged to a greater or smaller extent along with fetal membranes or it can be discharged alone. These membranes are never casts of the whole uterine cavity, but are always shreds of various size and very irregular form. If parts of the decidua are discharged along with parts of the fetal membranes, we find under the microscope the chorion with more or less atrophic chorionic villi easily recognized by the star or spindle-shaped cells of the embryonic connective tissue, of which the chorion consists. (Fig. 13). The epithelium of these atrophied chorionic villi is always lost. The chorion reposes on a layer of decidua cells, which surround the atrophied villi of the chorion. The cells of the decidua reflexa generally are indistinct, the whole tissue staining diffusely. This is always seen if the case is not one of very early pregnancy. In the later stages the reflexa undergoes hyaline degeneration and the whole membrane has a homogeneous aspect. If parts of the vera are discharged along with the reflexa they look very much like the latter; often they are infiltrated with numerous round cells.

If we get such shreds for examination and find parts of the chorion in them, we can give a positive diagnosis of pregnancy inside the uterus. If we find only decidual tissue we can only give a diagnosis of pregnancy, but are not enabled summarily to decide that this pregnancy is inside or outside the uterus.

A decidua can develop itself in a uterus which does not contain a fetus under the following conditions: 1, tubal pregnancy (Fig. 3); 2, pregnancy in one horn of a double uterus: *a*, both horns being fully developed (Fig. 6); *b*, one horn being rudimentary (Fig. 9).

There are some other varieties of abnormal location of a fetus which I shall not further describe here, as the formation of the decidua in these cases is the same as under the conditions just mentioned.

If the fetus is in the tube the uterine mucous membrane undergoes the same change as if the fetus were in the uterus itself, while the tubal mucous membrane forms the decidua vera of the fetus. I call the uterine decidua in such cases a "para-decidua" to avoid mistakes. Such a para-decidua is also invariably developed in the empty horn, if the uterus is double and one horn is pregnant. I have had the



BV, blood vessels; F, furrow of surface; G, glands; BS, blood sinus; DC, decidua compacta.

good fortune to observe the comparatively large number of four such cases while I was assistant to the gynecologic clinic of the University of Strassburg. In three of these cases both uteri were well developed and the labor was to all appearances the same as in a normal simple uterus. The fourth case was a case of double uterus, one horn of which was rudimentary; only the body of the rudimentary uterus was developed and there existed no communication between the two uteri (Fig. 9). The rudimentary uterus contained the fetus, which had grown in it until the fifth month, when the uterus ruptured and the fetus was born into the abdominal cavity. The rudimentary horn was removed and the patient recovered. This description suffices perfectly for the establishment of this case as one of impregnation by external migration.

In all of these four cases a para-decidua was discharged from the empty uterus; in three cases, among them the case with the rudimentary horn, parts of the

para-decidua were passed on the day of the confinement, the rest a few days later; in the fourth case the para-decidua was passed three or four days after the confinement as a complete cast of the uterine cavity. In cases of tubal pregnancy the para-decidua is generally discharged soon after the death of the embryo; there are, however, exceptions to this rule. The para-decidua of tubal pregnancy is passed either in shreds or as a complete sac.

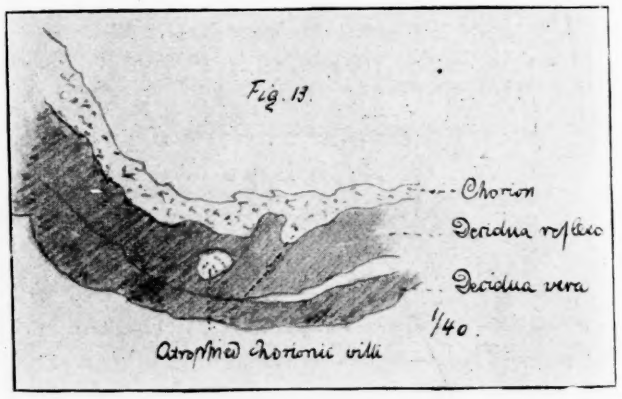
If we compare complete specimens of para-deciduas passed in tubal pregnancy and in pregnancy in one of a double uterus, we observe a marked difference in the macroscopic appearance. The para-decidua of a tubal pregnancy is a three-corned sack with openings at the three corners corresponding to the two tubal and the cervical orifices of the uterus (Fig. 4). The para-decidua passed from the non-pregnant horn of a double uterus has only two corners and openings with shaggy borders, while the third corner is rounded and presents no opening (Figs. 7 and 10). The cause thereof is that such a uterus contains the orifice of only one tube; the corner opposite the orifice of the tube is round and the decidua can be separated here without any interruption of its continuity (Figs. 6 and 9).

These para-deciduas present a shaggy outward surface, while the surface looking toward the cavity of the uterus shows a network of more or less shallow furrows, which surround islands of smooth tissue, which is dotted with very minute openings corresponding to the orifices of the uterine glands. The size and thickness of these membranes vary very much. Each individual membrane has thinner parts corresponding to the fundus and the lateral borders of the uterus. The para-deciduas of tubal pregnancy vary in thickness up to three millimeters, the para-deciduas in cases of double uterus are between four and seven millimeters thick, the size of the latter is usually twice or three times the size of the para-deciduas of tubal pregnancy.

The microscopic examination of these membranes shows them to be largely composed of fully developed decidual cells with large clear bodies and a comparatively small vesicle-like nucleus (Fig. 12). The size of these decidual cells varies according to the progress which the pregnancy has made in the same way as in the decidua vera of a normal pregnancy. The decidua cells lie closely together, leaving only narrow spaces between them, in which sometimes round cells are impacted. In tubal pregnancy the expelled para-decidua contains mainly the compact layer; the spongious or glandular layer remains in the uterus. Some authors, among them Abel in his recently published work on "Microscopic Technique in Gynecology," assert that these membranes never contain glands, if they are not removed artificially. But I possess specimens of para-decidua cast off by the uterus itself, in which there are quite distinct glands with well-preserved epithelium (Fig. 5). In cases of pregnancy in one horn of a double uterus, both the compact and the glandular layers are expelled; in one of my specimens the glandular layer is remarkably well developed (Fig. 8). The epithelium of these glands is usually much flattened out, so that it is sometimes very difficult to distinguish it from the endothelial layer of vessels. The blood which is often contained in these spaces does not enable us to make a differential diagnosis between blood-vessels and glands, as some spaces which are lined with distinct epithelium and are thereby characterized as glands, also contain blood.

The epithelium of the surface is seen occasionally in para-deciduas of tubal pregnancy as described by Abel; in one of my specimens of para-decidua from a double uterus it is very well preserved and is in direct continuity with the epithelium of the glands.

The blood-vessels are dilated in all para-deciduas and



choked full with blood-corpuscles. The endothelial cells of the vessels generally present the same swollen appearance as in normal pregnancy. Besides these blood-vessels are seen many comparatively large spaces filled with blood-corpuscles and fibrin; they form the so-called blood-sinuses and are generally found near the inner surface of the membranes (Fig. 5). The surface which had been in connection with the uterus generally presents some large blood-sinuses and the whole tissue on this side of the membranes is infiltrated with blood-corpuscles.

The normal interstitial tissue of the uterine membrane is often preserved in the deep layers of the para-deciduas, generally much infiltrated with round cells.

The mechanical process by which the membranes here described become detached from the uterus is not definitely settled. But if I consider the regular occurrence of hemorrhagic infiltration along the line of separation of these membranes, para-deciduas, deciduas and membranes of membranous dysmenorrhea, I can not help conceiving the idea that these hemorrhages have something to do with the detachment of these membranes. I can not deny that they may be a consequence as well as the cause of the separ-

ation and that this theory needs much further evidence before it is firmly established.

After having reviewed these different membranes it will be well to point out the main symptoms by which we are enabled to make a differential diagnosis between them. The history of the case generally gives some valuable indications as to the nature of the membranes passed, especially so in cases of membranous dysmenorrhea, where a history of more or less regularly repeated discharge of membranes is highly significant. By microscopic examination two kinds of membranes can be diagnosed without any difficulty, the membranes consisting of vaginal epithelium and the blood-clots. For the rest of the membranes the main question to be answered is whether there is pregnancy or not. If we find chorionic villi the diagnosis of intra-uterine pregnancy can be given with absolute certainty. If we find the membranes composed of parts of the uterine mucosa with well-preserved glands and epithelium without any decidual cells, the diagnosis of dysmenorrhea membranacea may be safely pronounced. The main difficulty arises, if we find decidua cells in the membranes. Some authors assume that decidua cells are no proof of the existence of a pregnancy, because decidua cells have occasionally been observed in cases of simple endometritis. But it seems to me that there exists a wide difference between the occurrence of a few decidua cells in an otherwise normal interstitial tissue and the composition of a whole membrane by decidua cells. One swallow makes no summer and one decidua cell makes no decidua. But if we observe that a membrane passed from the uterus is totally or largely composed of decidual cells, if we find the whole specimen like those above described as decidual or para-decidual membranes, I believe we need not apprehend a mistake if we give a diagnosis of pregnancy. To decide whether this pregnancy is intra- or extra-uterine it is of the greatest help to have the whole membrane for examination. Their size, the thickness, the number of the openings at the corners of the sacks give most important clews.

Finally, the aspect of all the membranes above described can be much changed by degeneration or hemorrhages and round-cell infiltration, so that eventually an exact diagnosis is impossible. In making a diagnosis from the descriptions above given it must always be borne in mind that absence of a symptom is of very inferior value to positive observation.

DISCUSSION.

Dr. M. L. Harris I was in hopes that some of the expert gynecologists present would have something to say on this paper. Anything which will help us in making a diagnosis of extra-uterine pregnancy is of great importance, because as we know, this condition is extremely difficult to diagnose. The practical importance of this paper to me can be summed up in one point, namely, the diagnostic value of the decidual membrane in extra-uterine pregnancy. It is universally acknowledged now that a decidua invariably forms in the uterus in extra uterine pregnancy. Is such a membrane ever shed from the uterus where the individual is not pregnant? It would hardly seem necessary to raise such a question had not such an authority as Olshausen recently denied the possibility of such an event in this way. He says: "While I am not able to state positively that it is impossible for such a membrane to be shed during menstruation, still I do not believe it ever occurs, and that when it does it is an indication of extra-uterine pregnancy and simply shows how very common this condition is." This statement, however, can not stand. There is no doubt but that such a membrane may be shed during menstruation. Cases have been reported by Franqué, for instance, where there was a periodic discharge of a membrane during menstruation from the age of 8 years up. Are we able to differentiate such a membrane shed during extra-uterine pregnancy from one thrown off during menstruation? This point does not seem so clear. We may take the points which have been given as diagnostic of the menstrual membrane, preservation of the epithelial cells, multiple hemorrhages, fibrin layers, serous infiltration, separation of the cells by round cells; but none of these points is diagnostic of a menstrual membrane. All of them may occur in a true decidual membrane. Again, a point which has been relied upon to differentiate the decidual membrane is this, that the connective cells, so-called decidual cells are always much larger than are found in menstrual membranes. The size of the decidual cells is no criterion by which we may diagnose the true decidua. Franqué made a large number of accurate measurements of the connective tissue cells in menstrual and decidual membranes, and concluded that we were not able to differentiate one membrane from the other simply by the size of the cells. Again, the growth of the decidual membrane is a very gradual process, the rapidity of its growth is variable, and the length of time which pregnancy is supposed to exist does not always produce a decidual membrane of the same degree of advancement. For instance, the decidual membrane will grow more rapidly or slowly, according to the distance of the fetus from the uterus, as was shown some time ago by Wyder. When the decidual membrane is fully formed and shed, so that we have a membrane made up wholly of decidual cells without glandular tissue we can be very sure of the diagnosis. When we have the membrane in the intermediate stage we are unable to differentiate a decidual from a menstrual membrane. Such is the opinion of Franqué after a thorough investigation. He stated that the microscope alone would not enable us to differentiate these membranes in all cases. We must have a decidua which is quite complete in its formation, otherwise we can not say it is a decidual membrane, because the menstrual membrane may contain all of the points which go to make up the decidual membrane, even an increased proliferation of connective tissue, and correspond very closely to a decidual membrane in its early formation. The same opinion is likewise held by Hofmeier, Ruge, Meyer, Löhlein and Fritsch from their own individual investigations. However, the value of the membrane when it can be differentiated in the diagnosis of extra-uterine pregnancy is considerable. I think that is the most important point which we can make from this paper, and it is an extremely valuable one.

As to the hemorrhages into the membrane and the cause of separation I had an opportunity to examine a membrane from a typical case of membranous dysmenorrhea some time ago, and I was greatly impressed with the hemorrhages into the deep layer. There was no doubt that this was a case of menstrual membrane from the history, and I was fortunate in securing the membrane soon after it had been discharged. It contained the ordinary uterine glands, the epithelium being preserved except where it had been lost from handling. In the deep layer were multiple hemorrhages, and so much infiltration of the membrane with blood that one could hardly fail to be impressed with the possibility of these hemorrhages being instrumental in causing its separation; still Löhlein concluded that the hemorrhages were not the cause of separation of the membrane, at least not the main cause. Other factors, with which we are not familiar, he considered to be the chief cause of the separation.

Dr. Emil Ries (closing the discussion)—I agree with Dr. Harris perfectly in some points. For instance, the difficulty of making a diagnosis in early extra-uterine pregnancy is undoubtedly very great. I have myself had a specimen of shreds

of membrane where I could not make a diagnosis, though I had numerous specimens of membranous dysmenorrhea and of extra-uterine pregnancy to compare them with. It was a case of uterine hemorrhage after menstruation had occurred one week too late, so that from a clinical standpoint a diagnosis of extra-uterine pregnancy had been made, though there were no distinct symptoms of this condition. There was no collapse; a tumor could not be distinctly felt. In this case the woman discharged with her irregular hemorrhages a few small shreds, and I examined them. I found cells resembling decidual cells, but the whole membrane was so much infiltrated with round cells that I could not get a clear view of the structure of this membrane, and from the microscopic appearance of the membrane I could not give a positive diagnosis. On the other hand, a microscopic diagnosis can be made very valuable where the clinical diagnosis is obscure. I remember a case where a woman had not menstruated for three months and then had hemorrhages. An examination revealed the uterus to be slightly enlarged, and to the right side of it was a distinct tumor which could be distinctly traced to the tube, so that the doctor had made a diagnosis of extra-uterine pregnancy, considering the hemorrhages the consequence of the rupture or of the death of the fetus. I got a little three-cornered sack from this uterus for examination, the macroscopic appearance of which resembled that of a para-decidua, but when I examined it under the microscope I found chorionic villi. This case could not be one of extra-uterine pregnancy, inasmuch as the fetus had been aborted and the irregular hemorrhages were the consequence of retained decidua and chorionic villi. The microscopic diagnosis may be of great value in such cases.

Considering the value of the decidual cells in the diagnosis of pregnancy, I know that there has been a very severe controversy between several German gynecologists, which has lasted for many years, but has been abandoned because nothing new has been advanced about it. What seems to be the most important fact is that, without any doubt, in cases of simple endometritis cells can be found in the mucous membrane of the uterus which resemble decidual cells in size and which have the large nuclei of the decidual cells, the bodies of these cells not staining well, the nucleus staining very well. But as I said in my paper, there is a vast difference between a few cells resembling decidual cells and a membrane entirely composed of decidual cells. Dr. Harris mentioned the size of the decidual cells. I do not think it is safe to rely upon their size. That there are intermediate stages between the connective tissue cell and the decidual cell is undoubtedly true. The decidual cell is nothing but a connective tissue cell which has grown. We observe sometimes intermediate stages where the cell is so small that it does not look like an ordinary decidual cell, or it may be so large that it does not look like a normal cell of interstitial tissue. These are the cases where the diagnosis is difficult. Of course in cases of membranous dysmenorrhea it is not only the question of hemorrhages and edema and normal interstitial tissue cells, but one very important symptom is the presence of normal or slightly hypertrophied glands. In cases of extra-uterine pregnancy, or pregnancy in a double uterus, the glands disappear very soon: the epithelium becomes flattened out, whereas in membranous dysmenorrhea as a rule the glands and epithelium are well preserved, so that they can be readily recognized. The diagnostic importance of microscopic examination in these cases is inferior to that of such an examination in cases where the question is one of malignant or benignant neoplasm. But as I believe, it has been shown that in most cases the microscopic examination is of great diagnostic value.

SUPPURATIVE PERITONITIS—(CELIOTOMY)—PUERPERAL SEPSIS.

BY R. E. HAUGHTON, M.D.

RICHMOND, IND.

The position taken by some of the writers and operators quoted under the heading of celiotomy, in a paper read by Dr. Porter, of Fort Wayne, Ind., if correctly reported, may lead to misconception and error if permitted to go unchallenged by the profession. First, the author of the paper quoted Prandin, who says in regard to general puerperal peritonitis: "The women die, no matter what form of treatment is employed." Dr. Baldy says, as quoted: "To my knowledge there has never been reported an undoubted case of general purulent peritonitis, from any cause whatever, in which an abdominal section or any other line of treatment, has succeeded in saving the patient's life."

The writer of this paper above referred to, viz., Dr. Porter, signalizes these statements quoted as being wrong, and he desired to arouse a sentiment against the too prevalent idea, that in septic peritonitis death is inevitable, and also to encourage and foster prompt operative interference. I have thus outlined the references as brought out at the Mississippi Valley Medical Association, to emphasize what Dr. Porter has said in regard to the question: 1, that all women do not die no matter what treatment may be used to the contrary. (Prandin). 2, Dr. Baldy is mistaken if he be correctly reported as I have quoted him: 1, because other men have an experience which contradicts the statement as quoted in both cases; 2, my own experience is radically opposite to that as quoted, as I have treated some cases which did not die and have operated, performing celiotomy to remove the conditions of suppurative peritonitis, resulting from septic inflammation. I have had the pleasure of seeing two cases among many of septic inflammations of the peritoneum recover, one without an operation, where the abdomen was filled with pus, and discharging from the umbilicus a quart of pus in twenty-four hours; and a second case after a confinement which developed the trouble, and after about eight months sent to me, 300 miles, on a bed, to be operated upon, and this being done, the patient in fifty days recovered so far as to visit her friends and ride out. This case has been reported in the *Annals of Gynecology*, giving careful details of operation, removal of quantity of pus, cleansing, disinfecting the abdomen, and use of drainage tubes during the recovery, ending in material good health. Upon the day of the operation, in the morning visit, in answer as to how the patient seemed to be, my statement was: "This is the last day if no operation is made."

The patient had been undecided for several days, while I had most fully stated the conditions to the husband and friends, and insisted that valuable time was being lost so far as the operation was concerned. I talked again with the patient, told her that I could do nothing else than offer the chance as she could not expect to recover in her then present condition. The physicians, three others, who saw the patient that morning and carefully examined her, said to me: "Your patient will inevitably die," and were so positive that they said to me in view of the operation contemplated: "She will die; your operation will not save her." I remarked to them in response to the judgment which they gave, that if she was brave enough to ask for and submit to such an operation, I was brave enough to assume the risks and would operate if it gave her but one chance in five hundred.

We put her on the table after her consent and that of all her friends had been obtained, when we were all conscious she was sinking and her brain was beginning to wander, and she said to me, as I carefully and tenderly prepared her for the operation: "Doctor, what is the matter with my head, I wander, and it is getting dark; am I dying?" I said "No, but sinking;

and your blood is poisoned, and the operation may save you." I removed several pints of pus from the abdominal cavity and rapidly cleansed and disinfected, using hot water and boracic acid in solution, flushing the cavity, and rapidly cleansing with a velvet sponge, soft and never before used, but prepared for the occasion; closed up a five-inch incision with five or more sutures and adhesive rubber strips, cotton compress and bandage (antiseptic dressing); placed her in a clean bed, introduced a drainage tube, and watched the result. No prostration similar to a shock occurred. She partook of a little stimulant, and I gave an anodyne. She rested well the first day and night. I flushed the cavity through the drainage tube twice a day, patient making fair progress when she was discharged, cured. This is one case which did not die, the operation and disinfection evidently saved her and she is now hale and hearty.

The second case was a very similar one, except it did not arise after confinement, but was a case of suppurative peritonitis, discharging large quantities of pus each day. She had been seen by several physicians in Richmond, Ind., who gave her up, as a bad case, to die, and, as a last resort I was called to see her. I passed a long knitting needle, as a probe for investigation, introduced at the point of discharge at the umbilicus. I held this probe by its end, and having passed it full length into the abdomen, I swept the whole circle of the abdomen without striking anything except pus as the abdomen was largely distended and filled up, only permitting a drainage of a pint to a quart or more each day. The patient had been reduced to a skeleton, as this process had become chronic, wasting her body to an extreme degree. I well remember the impression it made upon my mind at the time, that most likely it was a hopeless case unless operated upon, which she would not consent to, and I told her I did not think I could benefit her in any sense. As I talked with her and saw her pleading expression for help, I said: "I will make a prescription for you, but have no confidence that it can benefit you, as you will not submit to an operation." I gave her the prescription, and she began using the remedy, as I prescribed it that day and wrote it at her bedside, and whether that cured her I will not assume, but I used a prescription which I have long depended upon, in a peculiar manner of my own for administration, as I learned it by practice and trial in suppurative cases, especially if I believed there was specific taint in the case. The prescription was simply iod. potass. in saturated solution, using syrup prunus virg. as a vehicle, 1 grain to the drop, increasing from 10 drops up to 40, 50 or 60, and even 80 drops a day, until its result is obtained. The patient rapidly recovered under it, and the use of a bandage, tightly drawn as a binder from day to day, reducing size and limiting accumulation. I saw her at the washboard after her recovery at the end of the summer, for it was spring time when I was first called to her, and talked with her as to her progress and final cure. She said she began to improve soon after taking the remedy and was now as well as before. Did the remedy cure her? One thing I do know, she got well, and is now living in this city.

I could cite more cases of similar recovery from septic suppurations and discharge of pus, but two cases prove a contradiction to the *ipse dixit* of two men who are quoted as operators and who have uttered a positive averment that they will all die under such circumstances. Here are two cases which did not die, and each one a standing illustration of its kind that they can recover. Hence, men want to be careful not to assume too much on any line of progress, lest it may be found that somebody may have a better personal experience.

Dr. Cordier, of Kansas City, said in his paper: "That the latest works on abdominal and pelvic surgery, contain short and misleading articles, as well as do the older text-books on the indications for drainage in these cases and still less as to how carefully and intelligently they should use the proper means of drainage." I endorse his sentiment as my own experience.

It is well for those who assume to teach, to give such explicit direction that the beginner at least shall not stumble and make mistakes in his early practice. I have had my doubts, fears and perplexities, and yet took occasion to say to Dr. Holmes, of Chicago, in discussing Dr. Cordier's paper, that he ought to retract the statement when he said, "that drainage was a sort of *vicarious redemption* for poor surgery." Drainage is a necessity in some surgical cases and, if done effectively, insures success as a result. "There is nothing which succeeds like success," and I think in many cases, I have demonstrated this truth. "No surgeon," says Cordier, "with all the antiseptic precautions to be used in opening a diffuse abscess of the thigh, or other part of the body would think of closing such a wound hermetically, leaving many broken-down shreds of diseased tissue in the abscess cavity." A drainage tube in such cases "is as near the ideal surgery," as these cases will permit, including the most careful cleansing and antisepsis. And I endorse his statement that, in my own experience, "drainage is a life-saving process, under judicious management," and to use it is not a "vicarious redemption" for bad surgery, or an admission that his work is imperfect.

I have seen a fecal fistula occurring by ulceration and opening into the abdominal cavity, developed, as a fact, in one case in which the careful application of drainage and antiseptic flushing secured a recovery, which I believe no man could have reached, save through this method, and that is one of the cases here reported. The tube did not produce fecal fistula, as it *existed* before, and the odor of the body indicated it, and fecal discharge mixed with pus at the time of the operation.

So, again I say, by way of emphasis, art is long, appearances are not necessarily microscopic, but are macroscopic, and sometimes judgment is difficult, deceptive and misleading. Evidence presented to the senses oftentimes leads the judgment as to facts; hence we should not permit ourselves to become too dogmatic in teaching as, if we are patient investigators of the truth, we find we have to change our opinions and judgment, or submit ourselves to be found in error. Having for years under varied and difficult circumstances, tried the principle of drainage, and secured results worthy of repetition, I repeat the statement which has been made by the author, viz., "That there is no danger to the patient; and none, to my mind, greater than a want of drainage could develop."

NOTE.—Two more recent cases made successful by proper drainage and antisepsis, which show the benefit of drainage in a most impressive manner. All of the cases referred to are now living, having made good recoveries—three recoveries and one not operated on.—DR. H.

PERITONEAL SUPPORTS—(LIGAMENTUM PERITONEI.)

BY BYRON ROBINSON.

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(*Continued from page 524.*)

The mesentery of the sigmoid represents that which has been only partially disturbed by displacement or coalescence. The two branches of this S-iliac are a vertical primitive branch which inserts itself directly in the mid-dorsal line. This we will call the lower limb of the loop. The upper limb of the loop reaches from the lower pole of the kidney or still lower down to the point on the vertebral column where it converges with the vertical or primitive loop. The convengence of the upper and lower limbs of the sigmoid loop is on the vertebral column at a varying point according to age and individual differences. At the third fetal month, the rotating umbilical loop begins to drag on the mesentery of the descending colon. The dragging falls chiefly on a fold of the mesentery of the descending colon which may be called the ligamentum mesenterico-mesocolon, but which I shall designate in honor of the Russian anatomist, Gruber's fold. Gruber's fold is what I understand is especially put on the stretch while the cecum traverses across the abdomen in front of the duodenum. It suspends the sigmoid mesentery and keeps the S-iliac out of the pelvis to some extent, also preserves the S-iliac from volvulus. At three months' fetal life one can observe the rapid displacement of the descending colon to the left. This displacement, which I believe it is, and not coalescence as Toldt advocates, so changes the primitive mesentery by dragging it from its mid-dorsal line that the mesosigmoid demands new study. There is an angle distinct and plain at the junction of the ascending lower limb of the S-iliac and the upper limb of the sigmoid loop, at the left side of the vertebral column. Now, this angle demands attention, as from it starts the point of a cone whose base ends at the brim of the pelvis at the sacro-iliac joint. This cone is the intersigmoid fossa which is due, so far as I can observe, chiefly to the spermatic vessels. Yet some may say with apparent evidence that the intersigmoid fossa is due to the sigmoid artery or to the lower pole of the left kidney. The white line which lies to the left of the descending colon, claimed by Toldt as evidence of coalescence, is, in my opinion, not yet proved. I have carefully examined this line, but think the evidence is sufficient for any interpretation so far given. I will here note a wide variation in the position of the descending mesocolon and mesosigmoid. The line of insertion of the descending mesocolon may be anywhere between the internal border of the left kidney and the external border of the same. Or it may be far out beyond the kidney against the lateral abdominal wall. Again, the mesosigmoid may assume a varied line of insertion. In a case, examined by Dr. Waite and myself, the mesosigmoid began at the middle of the external border of the left kidney with a relatively long mesentery. From this point the insertion of the mesosigmoid passed in direct line to the third sacral vertebra. This was a case with an enormously long and wide mesosigmoid and yet the radix mesosigmoidea was not inclined to be abnormal. The abnormality was in the lower end of the descending colon, having a long

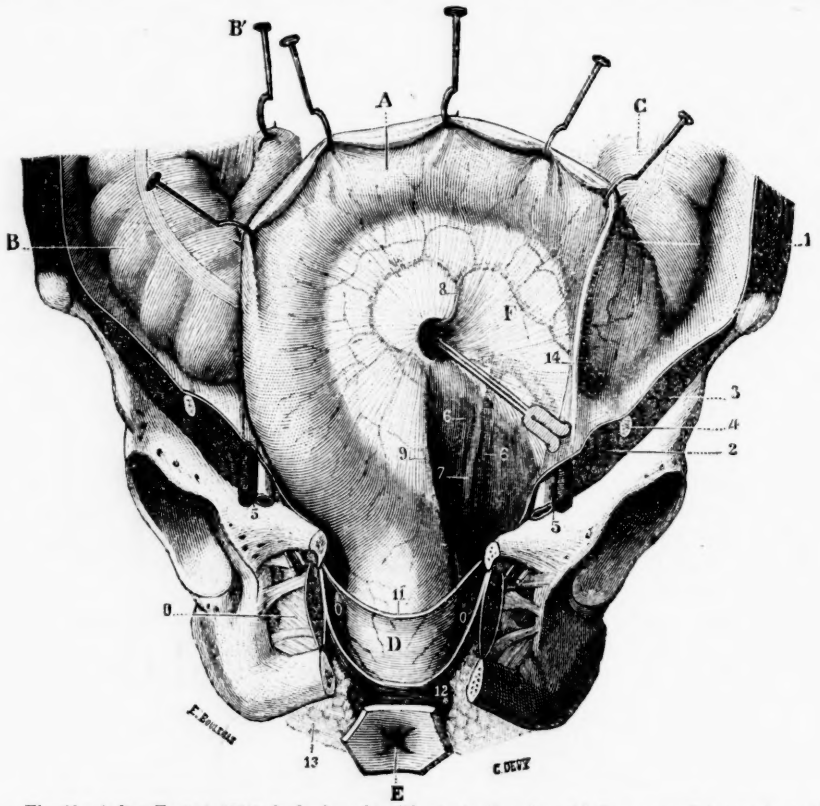

Fig. 66 *a* (after Testut, 1894), is designed to illustrate the sigmoid flexure and inter-sigmoid fossa. A sound is introduced into the fossa. A, S-romanum; B, cecum; C, left colon; E, anus; 2, psoas muscle; 3, iliac muscle; 5, iliac vessels; 7, ureter; 6, hypogastric vessel; 8, sigmoid arteries and lower end of meso-sigmoid; 11, section of peritoneum at level of recto-vesicle cul-de-sac; 14, duplication of peritoneum: F, meso-sigmoid. The inter-sigmoid fossa often reaches to the origin of the spermatic vessels. There is generally a slight valvular peritoneal fold at the mouth of the inter-sigmoid fossa which would, in all probability, prevent hernia.

mesentery reaching from the middle of the left kidney to join with the mesosigmoid.

In adults, the line of insertion of the mesentery of the lower loop of the sigmoid varies the least yet it generally is located to the left of the mid-dorsal. The mesenteric line of insertion of the upper limb of the sigmoid generally reaches from the external border of

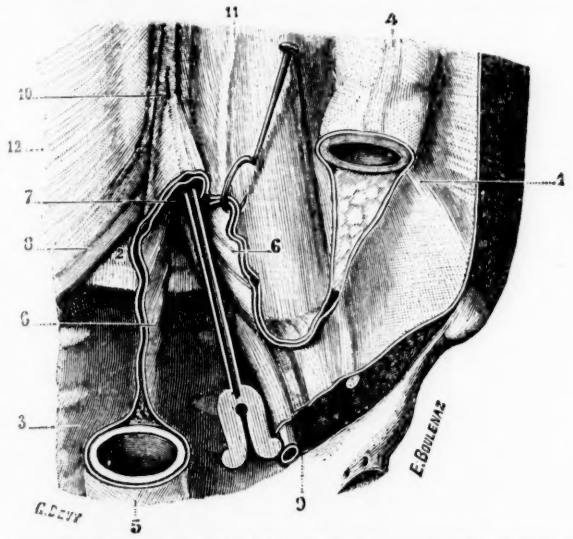

Fig. 66 *b* (after Testut, 1894) is designed to represent the insertion of the meso sigmoid. 1, iliac crest; 2, 5th lumbar vertebra; 3, sacral vertebra; 4, left colon; 5, rectum; 6, meso-sigmoid, cut edge; 7, inter-sigmoid fossa, with a sound in it; 6 rests on the psoas muscle over which the meso-sigmoid runs. Peritonitis occurs in the meso-sigmoid at the point where it crosses the psoas in 75 per cent. of adults. The predisposing factor in the peritonitis is the contraction and relaxation of the psoas and iliac muscles.

the sigmoid occurs after birth. The angle of the junction of the lower and upper limbs of the sigmoid loop gradually widens as the mesosigmoid shifts downward and to the left. If one pulls the sigmoid upward, especially in an infant, there will be seen on the left blade of the mesosigmoid an opening generally situated at the pelvic brim near the sacro-iliac joint, close to the root of the mesosigmoid. The opening is round or oval-shaped and lies at the entrance of a cone-shaped depression, which varies in depth from a simple depression on the surface all the way up to the duodeno-jejunal flexure.

The intersigmoid fossa scarcely occurs before the sixth month of fetal life; in general, it is rare at birth and in adults it exists frequently, but is nearly always distorted by peritonitic adhesions due to the psoas muscle as a predisposing factor to inflammation in the mesosigmoid. It generally has a peculiar valve-like fold at the entrance of the fossa which prevents the engaging of omentum or bowel loop.

The variation of opinion of authors in regard to this fossa in the mesosigmoid is remarkable and radical. Henle and Perignon observe that the fossa ascends behind the dorsal parietal peritoneum. Toldt says it lies in front of the dorsal parietal peritoneum. Treitz says the fossa lies between the blades of the descending mesocolon. Waldeyer says it is in the substance of the mesosigmoid.

In the above views are contained three distinct and separate anatomic situations absolutely irreconcilable. The matter is yet unsettled. Jennesno notes that the fossa is almost constantly present in the newborn, with

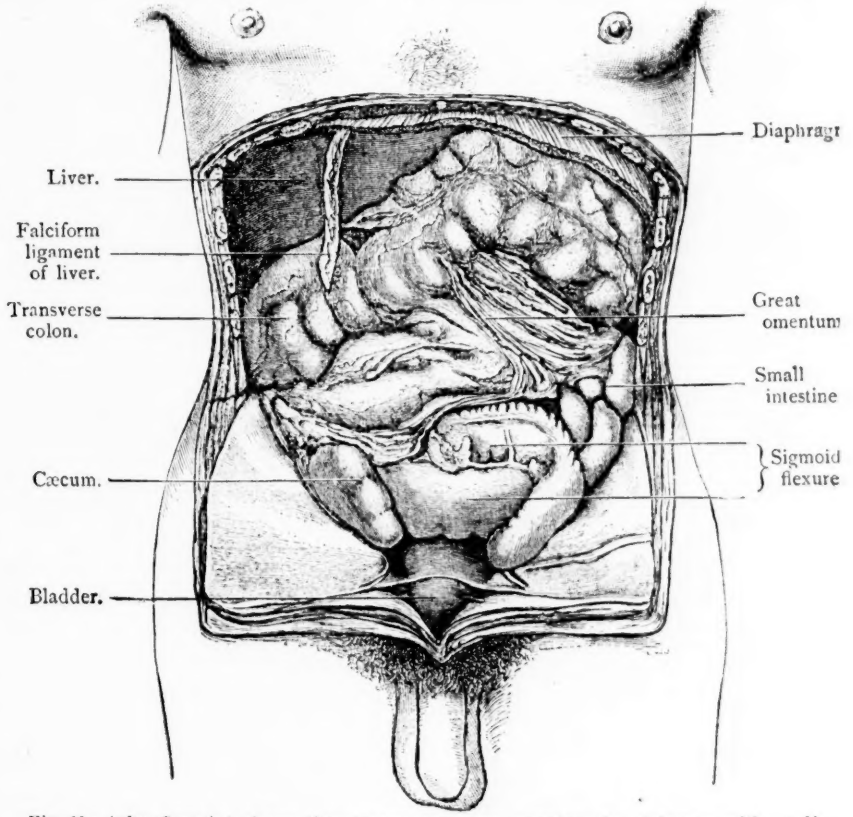

Fig. 66 *c* (after Sarazin) shows the viscera as seen on opening the abdomen without disturbing them. It is a natural and excellent drawing, showing the omentum rolled up and especially rolled off the cecum.

the psoas muscle at about the iliac crest to a point below the divergence of the iliac arteries. The chief displacement occurs in the upper loop. It should be distinctly remembered that much of the evolution of which my investigations do not agree. The type of the intersigmoid fossa will constantly change from infant to adult life on account of 75 per cent. of peritoneal inflammations occurring in the mesosigmoid of

adults, which will always distort the shape of the fossa and often obliterate it. The inflammatory cicatrices often divide the entrance and cavity of the fossa into two or more apartments. The fossa exists according to authors in from 50 to 85 per cent. of subjects. It may be that the theory of coalescence so ably advocated by Toldt finds its most crucial test of existence in the formation of the cone-like intersigmoid fossa. But the doubtful wedge lies in the view. Why does the coalescence miss this intersigmoid cone? Why does the coalescence miss any portion of the surfaces and select others? In the whole investigations of the peritoneum the coalescence theory has not convinced me that it shows as much natural evidence as the theory of displacement.

The broad ligament of the uterus (ligamentum latum uteri, laterale) is such an important peritoneal support that we will devote to it some detailed description. The broad ligaments are the double blades of

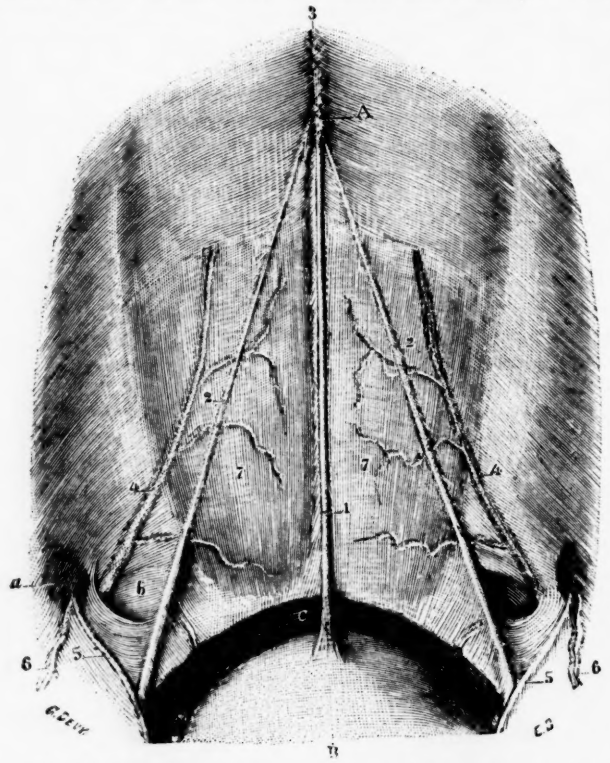

Fig. 66 *d* (after Testut) represents a view of the anterior peritoneal covering of the abdominal wall. A, umbilicus; B, bladder; 1, urachus; 2, hypogastric artery; 3, falciform ligament; 4, epigastric artery; 5, vas deferens; 6, spermatic artery; 7, rectus abdominalis covered by peritoneum. The epigastric arteries disappear under Douglas' fold. *a*, external inguinal fossette; *b*, median inguinal fossette; *c*, internal inguinal fossette. The urachus, hypogastric and epigastric arteries throw or project the peritoneum into folds—plicæ peritonei. I have frequently observed some of these peritoneal folds 1½ inches broad.

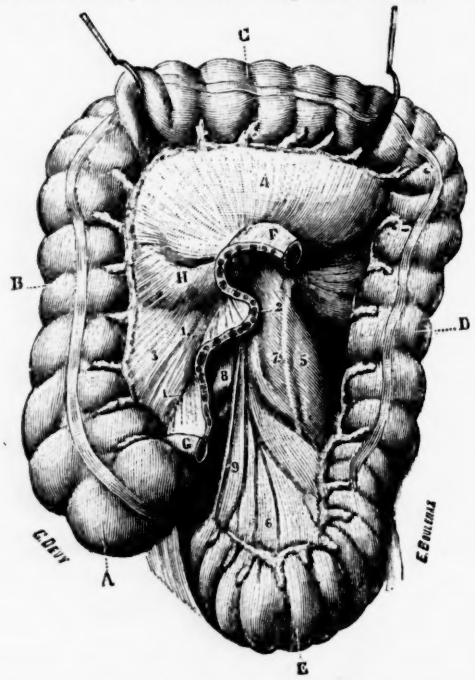

Fig. 66 *e* (after Testut) is a beautiful figure to illustrate the mesocolons and mesentery cut off at root. Anterior view. A, cecum; B and D, ventricle colons; C, colon transversum; E, S-romanum; F, jejunum; G, ileum; H, duodenum shimmering through the peritoneum; 1, radix mesenterii on posterior border; 2, mesentery, cut edge; 3, mesocolon ascendens; 4, transversum; 5, descendens; 6, meso-sigmoid; 7, ureter; 8, common iliac artery; 9, sigmoid artery. Six and 9 mark the fold which I have designated in honor of Prof. Wenzel Gruber, the Russian anatomist, Gruber's fold. It sustains the sigmoid flexure and keeps it out of the pelvis.

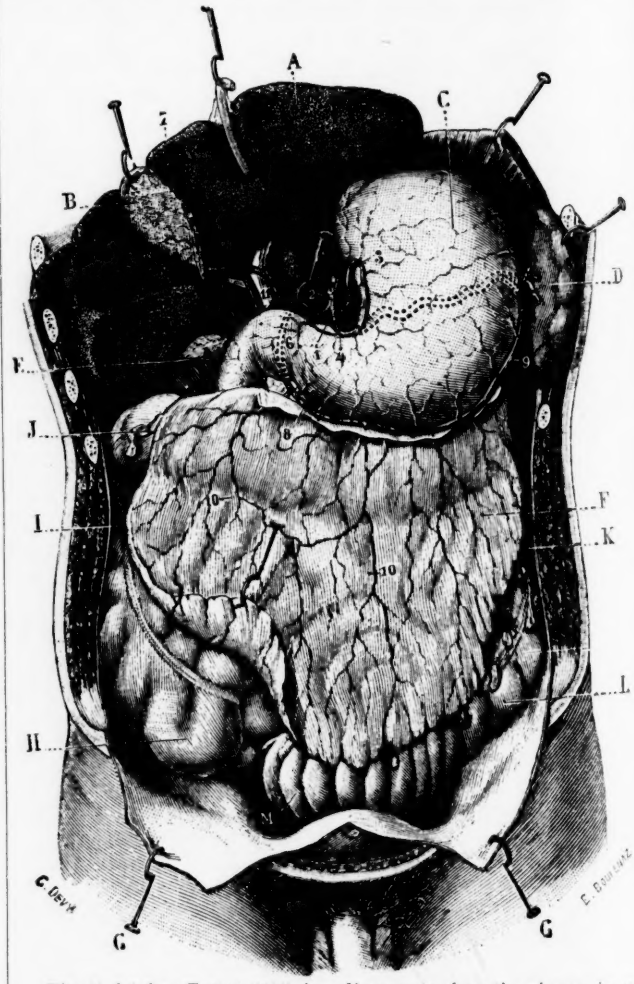

Fig. 66 *f* (after Testut, 1894) is a diagram to show the viscera in an almost natural condition after the abdomen has been opened. It is rather symmetrical for nature. It chiefly shows the relations and outline of the great omentum. A hook is shown drawing up a small fold of the great omentum from the anterior surface of the cecum. The great omentum covers the cecum in 10 to 15 per cent. of subjects. A, liver; B, gall bladder; C, stomach; D, spleen; E, duodenum; F, great omentum; 2, celiac trunk; 3, coronary artery of stomach; 4, splenic artery, dotted; 6, pyloric artery; 8 and 10, the great omentum. The dark lines represent arteries. All figures from Testut had colored vessels, which in these figures are black.

peritoneum which extend from the sides of the uterus to the laterale walls of the pelvis. The ligaments divide the pelvic cavity into two departments, anterior and posterior. The broad ligaments of the uterus contain the uterine appendages, the parovarium, a remnant of the mesonephros, lymphatics, muscles, nerves and blood vessels. The utility of the broad ligaments are to sustain and transmit structures rather than to support the uterus. The term liga-

ment is a misnomer, it should be mesentery. The broad ligament has no appearance or characteristic of a ligament. The ligaments resemble the mesentery in that one can strip off the serous epithelial layers from both sides of the ligament whence will be left the structure exactly analogous to the membrana mesenterii propria in which are found vessels and nerves in various arrangements. A view of the broad ligaments is to imagine that the uterus, tubes and ovaries—genitals—were thrust up from below separating the peritoneum into two folds. In these folds run the vessels and nerves necessary to their existence. The

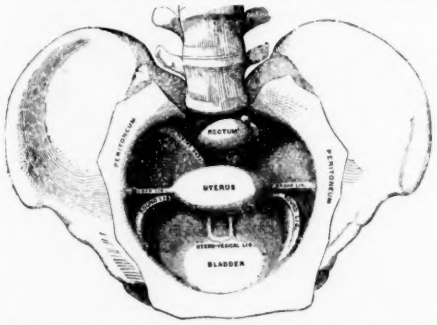

Fig. 52 (after Hodge) represents a beautiful cut of the pelvic peritoneum as seen from above. The pelvic peritoneum, like a sheet, is seen resting on the pelvic organs which thrust themselves upward, projecting the peritoneum into folds. Here prominent peritoneal ridges act as primary or secondary supports to the pelvic organs, which may be designated as digestive, genital and urinary. The pelvic peritoneum is most intimately connected with the genitals and most loosely connected with the urinary organs. This figure will merit study.

broad ligaments have an anterior and posterior surface, three attached and one free border.

The base or lower border of the broad ligament or genital mesentery begins at the lateral surface of the intestinal os and passes outward to the lateral wall of the pelvis at a point just in front of the sacro-iliac synchondrosis. The base line is convex over its under surface. The base border rests on a bed of delicate, snowy white areolar tissue which serves to protect and support the structures lying on it. The lower border of the genital mesentery is very important to gynecol-

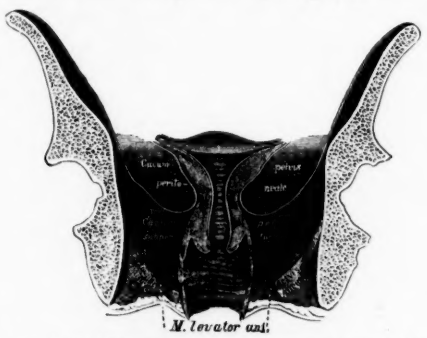

Fig. 53 (after Luschka) represents a transverse vertical section of the pelvis, showing the peritoneal line and sub-peritoneal pelvic tissue. It illustrates the abundant sub-peritoneal tissue which acts as a water bed, a buffer against trauma, and aids in the functions of the pelvic organs.

ogists as the ureter courses along its edge (in the virgin) or passes up to some extent between the fold of the ligament (the parous). At the base of the broad ligament the peritoneal folds are separated, anteroposteriorly to various extents. In this space of separation may be observed a typical collection of mesoblastic tissue on which the base of the broad ligament rests. In color it is snowy white, like hoar frost and soft as eider-down. One can separate the tissue into planes and layers from the peritoneum downward. It is very elastic, a veritable protective cushion, a buffer which saves the peritoneum from trauma, like a water-bag. In the virgin the ureter passes across the base of the broad ligament without passing to any considerable extent up between folds while in the parous it may appear across the ligament a considerable distance above its base. It may be observed that the uterine artery courses along the base parallel to its peritoneal folds and the important fact noted that the uterine artery passes over or above the ureter in order that during pregnancy the uterus and its artery may not unduly stretch the ureter. Every pregnancy widens the folds of the peritoneum at the base of the broad ligament, whence the ureters encroach higher and

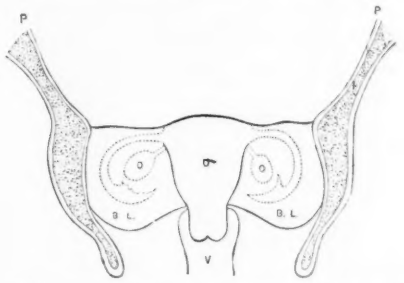

Fig. 54 (after Ranney, 1883) is a diagram designed to represent the attachments, outline, and some relations of the broad ligaments of the uterus. *P*, pelvic bones; *U*, uterus; *B. L.*, broad ligaments; *O*, ovary; *V*, vagina.

higher between its blades. Peritonitis is apt to occur at the base of the broad ligament near the internal os from laceration of the cervix and the invasion of infection. It is in this region that phlegmon following parturition occurs. The amount of sub-serous areolor tissue which the base of the broad ligament rests on

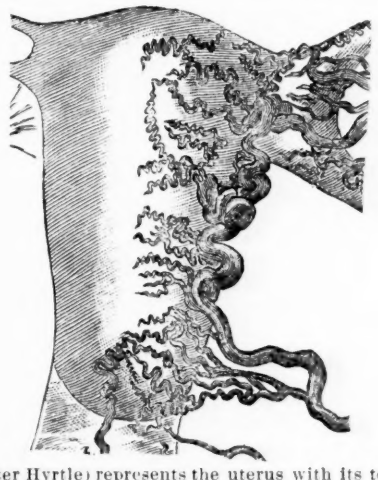

Fig. 55 (after Hyrtle) represents the uterus with its tortuous artery coursing up its side between the neck and Fallopian tube. The serous membrane is stripped off so as to show well the internal border of the broad ligament. The tortuous artery, similar in animals as man, allows sudden change of motion without rupture, rapid increase in size without danger of rupture, however the artery appears to increase with the uterus. It may be able to keep up a more intense blood supply to the uterus by its spiral condition acting like a reservoir. The tortuous artery is plainly observed shimmering through the peritoneum. The ureter passes under the uterine artery so as to avoid damage when the uterus rises up.

varies considerable in different individuals, but in general it is abundant. Its elasticity is remarkable. One can divide it into many shining, thin planes or layers and by dragging on the peritoneum the tissue can be separated so that it has the appearance of a very loose mesh-work of newly fallen snow having intervening spaces between the crystals or cells. Over three-fourths of the blood and nerves enter the broad ligament at its base. It is the base of the broad ligament that the examining finger meets in the vault of the vagina. Uterine myoma and parovarian cysts as well as some ovarian tumors gradually unfold the base of

the broad ligament and widen its entrance.] In the virgin the folds of peritoneum at the base come close together, but in the parous the folds have a considerable separation. The base of the broad ligaments are raised during pregnancy to about the level of the brim of the pelvis.

The upper or free border of the broad ligaments extend from the fundus of the uterus to the mid-lateral brim of the pelvis. The fold contains the Fallopian tube for nearly the whole distance, the remaining distance being occupied by the ligamentum infundibulo-pelvicum of Henle. The break in the upper border of the broad ligament is made by the fimbriated ends of tht Fallopian tubes. The all important portion of the border is the aperture of the oviduct,

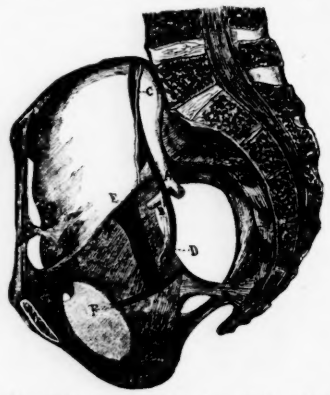

Fig. 56 (after Polk, 1883) represents the right pelvic wall with the ureter and external border of the broad ligament projected on it as black lines. A, internal iliac artery; its anterior trunk drawn to one side to show the origin of the uterine artery from the internal branch. B, uterine artery; C, ovarian artery; D, ureter in its black line shows its course through the pelvis; E, line of pelvic attachment of the broad ligament at the brim (nullipara); F, (in thyroid foramen) indicates the line of attachment of the levator ani muscle and the base of the broad ligament. It is also the location of entrance of the ureter in the base of the broad ligament. Observe the black line of insertion of the broad ligament in the lateral pelvic wall is about midway between the thyroid foramen and great sacro-sciatic notch, or better, midway between their anterior and posterior borders.

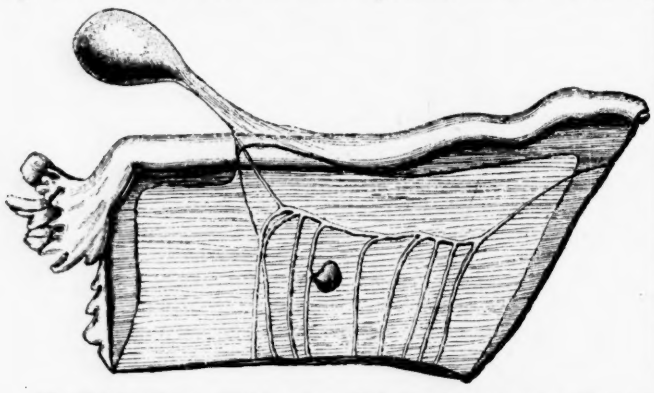

Fig. 57 (after Doran, 1884) is a beautiful drawing somewhat diagrammatic, to represent the posterior surface of the left broad ligament. Nearly all of the posterior serous blade has been removed to show some of the contents especially a typically formed parovarium. Duct of Gärtner distinct but it has sunk down. And cyst is developed from one of the end tubes and is drawn upward over the Fallopian tube. This is from one of Kobelt's tubes. A small cyst is developed on one of the vertical tubes, which in my experience occurs in 60 per cent. of women over 30 years of age. These cysts project or bulge up the peritoneum of the broad ligament, but can be distinctly enucleated from their bed of peritoneum. It is characteristic that parovarian cysts peel out of the broad ligament peritoneum. The borders of the broad ligament are well defined in this figure.

for here it is that infection gains access to the pelvic peritoneum. The end of the tube nearly always turns backward and downward into the posterior peritoneal pouch, *i.e.*, behind the broad ligament, so that the peritonitis arising from infection through the tubes is generally in the posterior peritoneal cavity.

The external border of the broad ligament lies along the middle bony wall of the pelvis, midway between the obturator foramen and the sacro-sciatic notch. Its upper end is at the brim of the pelvis and its lower end is the base of the broad ligament. The external border line of the broad ligament is diagrammatically illustrated by a figure copied from Dr. Polk. The broad black line "E" also indicates where the ovarian vessels run. The lower point of the external border of the broad ligament has a definite anatomic limit in

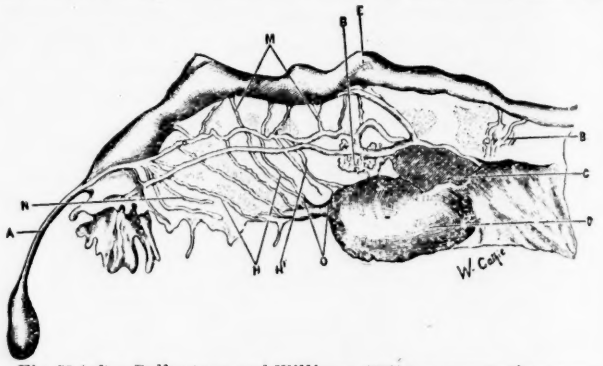

Fig. 58 (after Ballantyne and Williams, 1890) represents the anterior surface of the right mesosalpinx or broad ligament with the serous layer dissected off. What one sees in this cut is the real membrana mesosalpinx propria, *i.e.* the broad ligament minus its serous or epithelial coverings, the real neuro-vascular visceral pedicle containing the nerves, vessels, tubes, ovaries, muscles and fetal remnants. A, cyst in Kobelt's tube; B, relics of meso-nephros; C, cut surface of broad ligament; D, ovary; E, Fallopian tube; H, parovarian tubules; H, represents atrophied linear remains of innermost vertical tubules; M, lymphatics (or other structures); N, Kobelt's tubes; O, rete ovarii (reduced one-third in size).

the insertion of the levator ani. It is shown in the figure by the letter "F." The folds of peritoneum at the external border of the broad ligament come almost together, only a slight space exists between them. In this space the ovarian artery, vein and nerves enter at the upper angle of the external border. It is important to observe that the ureter "D" in the figure does not enter the external border of the broad ligament

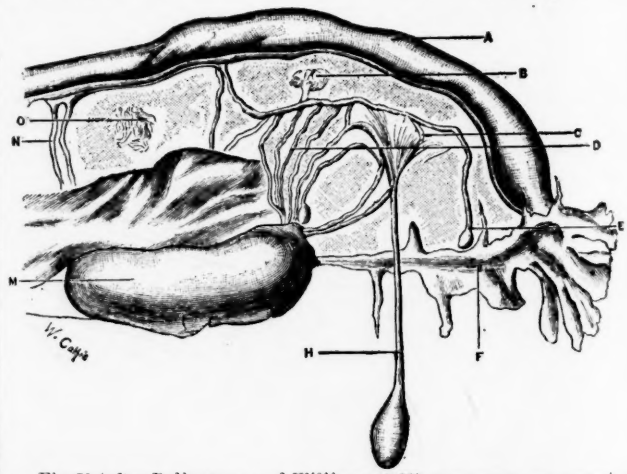

Fig. 59 (after Ballantyne and Williams, 1893) represents an anterior view of the left mesosalpinx, or broad ligament, minus its anterior serous blade. A, Fallopian tube; B, remnants of mesonephros; C, curved tubules of Kobelt, one of which has developed into a pedunculated cyst, H; D, vertical tubes of the parovarium; E, sessile cyst, (terminal) Kobelt's tube swelled into a cyst; F, fan-shaped ovarian fimbria in left ovary; N, tubular relics attached to Gärtner's duct; O, relics of mesonephros unattached to tubes (germinal epithelium, nearly natural size). This cut also illustrates the membrana mesosalpinx propria or neuro-vascular visceral pedicle.

except at its lower point where it joins the peritoneum at the origin of the levator ani.

It can be well observed in a cadaver as well as in the diagrammatic figure, now that the ureter is well to the side of the pelvis and as far out to the lateral wall of the pelvis as the external border of the broad ligament. It would be very difficult mechanically to dispose of the ureters in a more convenient manner for

the gynecologic operator than nature has already done. The ureter is preserved from any aperture by peritoneal fold and well protected by bone. Fortunately also the dragging of pelvic peritoneum does not always disturb the bed or the ureters nor the ducts themselves. I have known of the ureters being out several times, but that was in pathologic conditions where all normal relations were disturbed. The most important structure in relation with the broad ligament is the ureter which occurs through the lower end of the outer border of the broad ligament. The change in the broad ligament in pregnancy alters the relations of the ureter to it. It can not be said that the ureter has a fixed relation to the broad ligament because as pregnancy advances the ureter and broad ligament do not preserve their original relation. The broad ligament shares more in the gestation changes than the ureter, but toward the end of pregnancy the ureter is almost on a level with the pelvic brim. The broad ligament unfolds in a triangular form with the triangle's base at the base of the broad ligament. Again, it may be asserted that in some women, likely parous, the ureter passes between the layers of the broad ligament, but in others, likely multipara, the ureter does not pass between the layers at all, but along the base and lower end of the outer borders. Considerable personal dissection on female has convinced me very distinctly that the ureters and broad ligaments vary considerably in their relations, even in what would be termed normal individuals.

(To be continued.)

AMPUTATION AT THE KNEE-JOINT.

Read at the Second Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 25-27, 1895.

BY W. H. BUECHNER, M.D.
SURGEON ERIE RAILWAY.
CLEVELAND, OHIO.

The first mention of the removal of the leg at the knee-joint dates back to 1581, when such an amputation was made by Fabricius Hildanus. The method then seems to have been lost until 1764, when it was again brought to light by Hoin and indorsed by Petit and Brasdor. It was not, however, until Velpeau popularized it in 1830 that it began to approach the place which it now holds in the domain of surgery. The first American operation by this method was that of Dr. Nathan Smith in 1824.

Considerable difference may be found in the nomenclature of this subject. Disarticulation at the knee is called both by that name and by that of amputation; while to designate amputation through the femur, the names condylar, transcondylar and intracondylar amputation are employed. Ashhurst, in his International Encyclopedia of Surgery, says: "By amputation at the knee-joint is meant a pure disarticulation; in amputation at the knee, a larger or smaller portion of the femoral condyles is also removed." This is a move in the right direction of simplification which might well be generally employed. In this paper, however, it will answer every purpose to use the terms synonymously.

I am unable to find any statistics bearing upon the mortality of this operation since the introduction of antisepsis, and those of the pre-antiseptic era are of little value to us now. The pre-antiseptic statistics show a mortality about equal to that following amputation of the leg and much smaller than that of the thigh. In nineteen cases of disarticulation for disease done by Bryant between the years 1868 and 1883 but one death was directly due to the operation. (Med. Chir. Trans., Vol. lxix, 1886, p. 163.)

The advantages claimed for amputation at the knee are as follows: The medullary cavity is not opened and there is less shock; the attachment of the muscles is less interfered with, there is less retraction and therefore less liability of the formation of a conical stump; the muscles are not divided through the parts which are thick and vascular, but through their tendinous insertions; the stump is left longer than by a thigh amputation; the stump produced is capable of bearing the weight of the body upon its extremity. The last named is probably the most important ground upon which these operations base their claims for popularity. I am well aware that certain artificial limb makers deny the advantage of this and condemn all amputations at the knee because they can not fit satisfactory protheses to such stumps. They appear before the surgical world and demand that it make unnecessary sacrifice of length of limb to bring the patient within range of their mechanical ability. They ask us to whittle down our patients to fit their limbs instead of fashioning their limbs to suit the patient. It is sad that selfishness can carry men to such extremes. If they can not fit limbs to such stumps it would be more becoming for them to abandon the business to those who can than to come to us with the demand that we "cut our men to fit their cloth." I am not here for the purpose of advertising any special make of limbs, still I must quote from a maker who has had the experience of fitting prothetic appliances to thousands of stumps. In a paper entitled "Amputations Prothetically Considered," and read before the Pan-American Medical Congress, Mr. George E. Marks says: "When a leg-maker of modern times says an amputation should not be made below the point of election, you may regard him as confessing that he has not the ability to make a leg which can be worn on a long stump. . . . . Any stump which is capable of bearing weight on the end is preferable to one which can not. . . . . A stump extending to the knee is preferable to a shorter stump. . . . . the condyles and articular surfaces are better prepared to endure pressure than the saw or the knife can prepare them." From the above it may be seen that all protheticians do not condemn knee stumps and ask us to fit our patients to their limbs. It would carry me too far if I should consider the various methods of amputation at the knee-joint, descriptions of all of which may be found in the textbooks upon surgery, and all of which possess their advantages and disadvantages. I will therefore speak of a method which contains more of the former and less of the latter than any of the others, and one which I fail to find mentioned anywhere in the English language. I refer to the method originated and published by Sabanejeff, of Odessa. (Chirurgitschesky Wiestnik, 1890.)

The idea of this operation can be gathered best from the diagram I now show you. Beginning at the lower margin of one of the condyles of the femur at a point slightly posterior to its middle, an incision is carried vertically down the leg, then turning at a right angle it crosses the anterior surface of the leg about three finger breadths below the tuberosity of the tibia, then turning again at a right angle it ascends the leg to a point upon the opposite condyle corres-

ponding to its beginning. The free edges of the large rectangular flap formed by these incisions are dissected up only for a distance of about three-quarters of an inch. The upper extremities are then connected by a curved incision which crosses the popliteal space at the level of the lower border of the head of the fibula—thus forming a short posterior skin flap which is dissected loose up to its base. At the base of this flap an incision is carried down to the joint, dividing all the remaining tissues upon the posterior aspect of the limb. The joint is opened from behind and the ligaments divided, permitting the leg to be hyperextended until its anterior surface rests upon the anterior surface of the thigh. The leg is still attached to the thigh by the component parts of the anterior flap. The condyles are now divided through their middle in a direction at right angles to the long axis of the femur. The saw is then applied to the tibia at about the juncture of its anterior and middle thirds and that bone is divided parallel to its long axis for a distance equal to the antero-posterior diameter of the section of the condyles. At this point the section of the bone is completed by a few strokes of the saw applied to its anterior surface at right angles to its long axis. Before removing this plate of bone from the tibia it may be necessary to dissect up the loose edges of the anterior flap to a greater extent than has been done—how much, if any, will readily be seen at the time. When the flaps are brought into apposition the piece cut from the tibia adapts itself to the cut surface of the condyles much as the os calcis does to the tibia and fibula in Pirogoff's amputation. It is easily maintained in position without nailing or wiring and readily becomes attached to the femur.

The stump formed by this operation is as round and pretty as a normal knee and bears the weight of the body without the slightest discomfort. The normal relations of the parts are less disturbed than by any other method, but its chief point of superiority to Gritti's and all other operations is that the weight is thrown upon a part which is accustomed to bear it and which is anatomically arranged for that purpose.

Anybody can readily satisfy himself that in kneeling the weight does not rest upen the skin covering the patella, but upon that covering the tuberosity of the tibia. Because of this, nature has covered the patella with a thin integument little able to withstand pressure, and the tuberosity of the tibia with a thick skin designed solely for that purpose. In this operation the parts about the tuberosity are not disturbed and so the stump bears pressure as well as the normal knee. In other methods the thin skin of other parts of the knee is expected to bear the weight of the body, and, as would be expected, soon becomes irritated and painful.

W. Koch reports (*Berliner Klin. Wochenschrift*, 1891, No. 25) five cases operated upon by this method at the clinic at Dorpat with invariably good results. I performed the operation—I believe for the first time in America—last February, and am delighted with it in every particular. I feel sure that if any of the gentlemen will try the method they will lay aside all others and become as enamored of it as I am.

DISCUSSION.

DR. DANIELS, of Buffalo, N. Y.—I have been very much interested indeed in this paper, as the method is certainly new to me. At the same time, looking over the illustrations the Doctor so plainly placed before us with his description, it seems to me that if we have as much tissue for a flap as is there shown with as much good bone as it also shows, we could make an amputation at the point of junction below the knee and not disturb the joint at all. The illustration would rather indicate that, and the method of placing the bone, I see, refers to the modification of Pirogoff, that is well known to us all. It is an operation I have performed quite a large number of times and in addition have gone down below the point of Pirogoff's modification and performed work as is shown here at the knee. I would like very much to have the Doctor detail the case he operated, explaining the conditions that necessitated the amputation and giving us a little information on the point of the extent of laceration and obtaining the amount of tissue necessary to the operation.

DR. LEMEN—While he is explaining, I would like to have him explain what he does with the fibula.

DR. JAY—Before you establish a rule in surgery of any kind, and particularly the destruction or amputation or even disarticulation at joints, it is necessary to have more than one case to prove anything. I never made that amputation but have been compelled to make them over the knee-joint, or to cut above the knee-joint, but I never have been favorable to a disarticulation at the joint. If I can save three inches of the tibia, below, so as to have anything like a natural joint at the knee, I do it. Then my experience, too, has been that I would rather go above the joint than to go directly through it. I fail to see any great advantage in the operation. It is plain to see that it is very unique and very nicely done, and looks well on paper. But if there is any danger of the patella suppurating or sloughing off, I should want a great many cases, more than one certainly, to satisfy me. It might take place, as it does in Pirogoff's amputation, but a large number of surgeons do not make Pirogoff's for the simple fact that in the registry of twenty-one cases in this city, every one is a failure. A great many occurred at the County Hospital, and there were twenty-two failures out of 109 where the suppuration and sloughing of part of the astragalus, which was turned up against the end of the tibia, took place. They were not successful. I do not see, however, where the advantage would arise even if this osseous portion of the tibia were brought crosswise over the sawn off condyles of the femur and connected so as to make a stump on which the weight of the body was to rest. Of course the old way would be to denude or remove the articulating surface between the condyles of the femur and also the patella, and bring the patella in contact with the end of the femur. It seems to me on the very same principle, except that the skin covering to the patella would not be quite so thick as that of the tibia. I do not want to find fault with the operation, as I never saw it in my life. I have seen some record of cases that have been performed, but not a sufficient number of times to make me adopt it. I would want more than the evidence of one amputation.

DR. MAYNARD—It is shrewd, it is mechanical, it is creditable, but running back in my mind, away back yonder when Dr. Lemen was a baby, I can not remember a case where I could have made that operation without having better made another one. The Doctor says he is satisfied entirely with his results. I would ask for my personal information a detail of the case, of the condition of the injury, what led up to it and what gave him the opportunity to save so much of the tibia.

DR. GRISWOLD—It does not occur to me that the danger of absorption through the condyles is so conspicuous as our friend seems to think. I have done a great many operations myself, in cases of tuberculosis of the bone, where I would saw off a piece of the condyles and find that the condyloid tissue was not sound. If two-thirds or three-fourths of the tissue was sound, I would curette out two or three spots and cut all the diseased tissue out of the cut surface, leave the rest and have a good result. In a case of cancer some eight or

nine years ago where the woman was nearly dead, seemingly from general cachexia, very pale and very thin, suffering greatly from cancerous disease of the tibia, involving the ankle up to the knee-joint, I amputated it at the knee-joint and found that the condyles were diseased. I cut off a portion and found there was some evidence of discoloration. I cut off a little more and curetted two or three spots out and got a good result, and the woman is living yet. This was as much as eight years ago, and she is still in good health, so that I do not think the concellous structure of the condyles absorbs so readily and carries poison through the system so readily as it is carried by the lymphatics.

This operation, which is new to us, seems to me to deserve a trial, for it might happen and does happen as I have seen once or twice myself, where the muscles of the calf were torn off from the part, that an amputation could not have been performed below the knee-joint, and must be made either through the joint or above. When such is the case, if there is not enough tissue to make neither the posterior nor anterior flap below the knee, it is possible that such an operation as the one under discussion may be warranted. It strikes me it ought to be considered, and if a suitable case offers should be tried.

Dr. Gardner, of California—It seems to me that the object of amputations is to save the patient's life, and in railroad surgery the second object is if the stump is practical to allow an artificial limb. In this case that has been presented here so nicely I fail to see whether the piece of bone there placed in position would give a better stump than an ordinary amputation. All stumps after a while become more or less absorbed, not only the bony structures but also the muscle, and there is no doubt but that this stump also would become absorbed to a certain extent after awhile. I do not think if I had to perform an operation at any time, I would make the amputation after the old way.

Dr. Owens—I regret to say that I did not comprehend the first part of the paper and am not in position to say very much about it. What I have gleaned is not very favorable toward performing the operation. As has already been suggested, when railroad men have received an injury, and when the question is presented to them, whether they desire an amputation that will permit them to wear an artificial leg, or want a joint or foot that brings the joint at a lower level than the natural joint of the other side, they almost invariably, so far as I remember, select the operation which permits the wearing of an artificial limb. The operation is ingenious and the principles are already well known through the different operations on the extremities, but the operation does not strike me very favorably. Of course it is new and has its beginning, but I will condemn the operation.

Dr. Peck, of New York—It seems to me that this is a modification of the Italian operation, which is called the trans-condyloid operation with splitting up the patella and bringing the new middle surface up. It seems to me that this has nt particular advantages over the original operation, and has some marked disadvantages in this way: The trans-condyloid operation in which the patella is brought up to bear the weight contemplates removing or making a dissection through the condyles very near their junction with the shaft of the femur, making a smaller bone surface of only about the same size as the patella itself. It would therefore seem reasonable that a bone surface of that size would be much better adapted to the wearing of an artificial limb than one which is so much larger than the condyles in the transverse axes are than the shaft of the limb above. As far as the bearing of weight is concerned, practically, we all know that when one leg is flexed from the thigh and weight is put upon any joint, it is the patella and its skin cover that bears the weight rather than the tuberosity of the tibia.

Dr. Buechner—I will first speak more particularly of the case in which I did this amputation. It was a re-amputation, I did not do the preliminary one, which was at the junction of the upper and middle third. The joint was perfectly stiff and nobody wanted to try to fit an artificial limb. The patient wanted to get a stump on which he could get an artificial limb. As to what Dr. Daniels said regarding the length of this flap, perhaps it is a little out of proportion. If a person comes to make the operation, he will find that the flap is not as recommended, particularly in the Krause operation, he will find the flap is not as long as the flap recommended there. The flap, which occurs three inches below the tuberosity of the tibia, is not as long as it is in this case, and I agree with all you gentlemen that I never would think of amputating a knee-joint if it was possible to do an amputation below the knee.

Now, as far as the absorption of pus in the tissues of the condyles is concerned, the statement that it would be more apt to absorb pus than any other tissue is at variance with the authorities. I have looked up the subject of amputation not a little. I read it up in the International Encyclopedia, and in the new works which are being published at the present time. They all give as one of the advantages of amputation at the knee-joint and of trans-condyloid amputation that they are less liable to absorption than the amputations which involve the medullary cavity.

Another statement has been made that the tibia is different in structure from that of the condyles. Now, this is not a very long space here (indicating on drawing), and my teaching was that the head of the fibula was composed of similar tissue as that of the condyles.

About the suppuration taking place and the comparison with the Pirogoff amputation, I can only say that when in this year 1895 a person speaks of 22 cases of suppuration in 109 Pirogoff amputations there must be something wrong. I do not believe that any operator will get suppuration in 22 out of 109 cases if he follows the methods of to-day.

The statement that nobody does the operation of sawing the patella and putting it on is, I am afraid, not quite borne out by the facts of the case. Dr. Koenig, Professor of Surgery at Göttingen, called to Leipsic to take Thiersch's place, was very much opposed to that operation until his second last edition of his work. Then he came out and said that further investigation, and particularly the work of Pranderenberg and some of his associates had caused him to try the operation further, and he was very much pleased with it and wanted to recommend and indorse it.

The benefits which I claim for this operation over the Gritti operation and over the other operations are: First, as to sufficient strength to bear the weight. I believe if the Doctor will get down on his knees pretty often, that he will find that the skin covering the tuberosity of the tibia is what carries the pressure. I know that I—it was not in church—had occasion to kneel a great many times in the course of a few days, and I know where I got sore, and I know the skin over the tuberosity of the tibia is thicker and is the skin which carries the weight of the body. For this reason I claim that this operation has an advantage over the Gritti operation and over all which take the skin from the neighborhood of the patella to cover the stump. The other operation that would cover the end of the stump with the fixed skin exactly as the old Pirogoff operation, was condemned because the people cut off the tibia and the fibula and the astragalus at right angles to one another, and had to turn the flap to an angle of 90 degrees and put the weight where it never was meant that weight should be borne.

As far as this bone becoming absorbed is concerned, all stumps become absorbed more or less. I do not believe there is any more likelihood of its becoming absorbed than there is in the astragalus in the case of the Pirogoff operation.

The question about the fibula is a very easy one to answer. I probably was not explicit enough in my description of the operation, otherwise it would not have been asked. I spoke of

dividing all the structures and all ligaments so that the limb was only attached by the component parts of this anterior flap here and then turning it up. Now then, to get the saw applied at the junction of the anterior and middle third, a person will notice on himself, why he misses the head of the fibula, as the fibula remains on this part of the leg which drops away. It remains on the part of the leg which falls away and does not come into consideration at all.

THE PUBLIC SCHOOL AND ITS DEFECTS, IN RELATION TO HEALTH.

Read in the Section on Dental and Oral Surgery, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7–10, 1895.

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I will consider this subject under the following three heads:

1, The pathologic effects upon the system and the teeth of young ladies from cramming, crowding and overworking the brain without a proper amount of physical development in the open air to counteract the loss of nervous force. 2, the evil results therefrom, the effect produced upon the future mothers of this great and glorious country. 3, what are we doing as physicians and dentists to counteract this influence, outside of applying remedies to relieve and restore the broken down subject?

Should we not as members of the healing art, write and read papers upon this subject, discuss the same that the public through the daily press, may be so impressed that public sentiment will cause a reaction in the matter and the Heads of our educational institutions be made to halt, and modify their system of teaching which has proven for a quarter of a century so very deleterious to the physical and mental growth of our generation? School crowding and cramming impairs the health and lessens the appetite, which causes imperfect nutrition, bad assimilation of food and of ideas. This, therefore, lessens appropriations of good amounts of food which should consist of a proper amount of phosphates, with lime salts for the growing child, the very want of which retards and impairs the development of the second growth of teeth, of hair, nails and bones. These crowning beauties are the very evidence of health. On the other hand consider cramming, crowding and forcing as they are practiced in school life, especially in the high schools, when the young girl is just budding into womanhood, when her nervous system is in the most critical condition, when we frequently find instances in which a dormant tendency to mental diseases becomes aroused into action, and acute mania forms one of the risks through which many young women have to pass, at the age of puberty. As soon as any symptoms of eccentricity display themselves, at once the parents or the physician should interfere and relieve such pupils from study and school, for this crowding and cramming tends to the deterioration of the development of the teeth, and the whole body frame. From this rachitic condition of the teeth, as in imperfect bony union after fracture, the administration of phosphates, lime salts, etc., is of great assistance to aid the young and bony columns to attain their full size and strength. Exercise, sunlight, air, rest and short lessons, with a small class in charge of a competent teacher, who restricts studies to school hours, by day, would tend to a more salutary condition.

The new diseases, nervous exhaustion or prostration, like the defective teeth of the young, the pale blood of chlorosis, rickets, chorea and tooth decay, is in a general measure mainly due to the over-strain of the young mind in search of knowledge in school, and sad to relate many pupils pass the door, who leave their health within the college walls, too feeble to develop the higher dreams of ambition and thus disappoint the hopes of parents and lovers. It is unnecessary to describe the unhealthful effects of vitiated air upon the system of human beings in order to show the necessity for the work in hand, aside from the well-known direct effects of bad air, slight physical ailments of children, wholly unnoticed, are often developed by the impurities of the air of our schoolroom into serious diseases. In the public schools of Baltimore, like other large cities, in many storied buildings surrounded by alleys, and over-crowded with children trying for a primary education, with defective ingress and exit, although trained to march and counter march, to gymnastic exhibitions, and trained to fire-alarms under the command of their chief; yet in case of fire many may perish. Under the sudden influence of alarm from fire, if panic-stricken, what is the dire result? The tumultuous crowd without reference to order or previous instructions are rendered insane, and inoperative and the consequence is a fearful destruction of life and limb. All this could be saved by the return to our primitive form, the country school, viz.: Every precinct in each ward of our cities should have a reproduction of one-storied buildings, and plenty of fresh water and air; the interior containing study, class and teachers' room, suitable to accommodate 75 to 100 pupils, with 25 to 50 scholars to the teacher and assistant; with direct light from four sides, and ventilation from every direction. In this subdivision of school, it might be argued that extra expense would be objected to. There can be no expense in a business way, which would be compensated by the superior results in the improvement of education of our children, both mentally and physically, for the benefit of the nation, for what is the nation's expenditure to the country's good? The history of an individual education is but a unit, the history of a nation's education is the combination of all the units. We must remember that the teeth, hair and nails are the usual inheritance of our male ancestry; but heroism, pride and valor are emblems of the maternal side. The mother is the teacher of religion and proper speaking, all of which is taught at the altar, the mother's knee; hence, she is the instructor of the future nation, making good the adage that the "hand which rocks the cradle rules the world." "These are my jewels" said Cornelia, when she gave her sons to defend the nation. The dangers of over-crowding study on the coming mother, from a nervous standpoint, are well worthy of our consideration.

Neurasthenia saps the nervous enery that should be devoted toward fitting her for motherhood, within the next few years, when her greatest development in mind and body should be perfected. Hysteria is the most prolific source of domestic infelicity. Although the immortal Dante could in imagination descend to the uttermost bounds of Tartarus, and in vivid colors depict the state of the damned, yet would his pen have been wholly powerless to describe the bodily torment and agony of spirit of the unhappy victim of this dread affliction, where strong nature yields her powers to unnatural nervous prostration. How often do we see some fair young creature, whose

rounding muscles and graceful contours bespeak the budding woman, subject by reason of a peculiar nervous organization to St. Vitus dance—that peculiar involuntary twitching of the most diverse groups of muscles, especially peculiar to school girls; such torture, the iron hand of the Spanish inquisition would have been powerless to inflict. Much attention is being directed to some of the defects of our public schools, which were but a few years ago regarded as the perfection of education. As to the proper location and structure of the building, and the method of heating and lighting, ventilation and safety from fire and panic and the danger resulting from the shock to the nervous system, these I shall not discuss. I desire, however, to point out that nervous dyspepsia is common to the public school of higher grades. Defective appetite, deficient assimilation, constipation and mal-nutrition impoverish the blood, the gastric juice, the bile and the tissue forming materials. Hence the children lose their desire for food and regularity, and complain of lassitude, with marked cravings for such stuff as suits them least; cheap candies, pickles and chewing gum, slate pencils and fuller's earth. This boulimic state of the appetite fails to afford nourishment to the growing, and commonly entails a bad habit that often continues until maturity, which should be the age of perfection and beauty under happy circumstances of health. These unhappy surroundings, render them feeble in mind and body, with a tendency to chorea, epilepsy and anemic condition of the growing boy, and chlorisis of the girl. Hence full development can never be acquired until the cause of such arrest shall have been removed. We want no walking libraries of our children, with straps holding a dozen books; to study at late hours by bad gas light, when they should be asleep in a well ventilated room.

There should be laws forbidding the deadly practice of cramming, crowding and forcing the young and tender mind out of all proportion; all reason, all common sense, urged on with the foolish idea that he or she may gain the prize, a miserable fad that destroys the happiness and future prospects, be it a worthless story book or a gold medal; it is a cheat and a snare. The moral obligation of every true physician and dentist should prompt him to act speedily and forcibly in this matter and join with the mighty voices of great sanitarians; for the time is propitious, the demand is urgent and if we fail to meet the emergencies we are cowards, unworthy to bear the title of Doctor, viz., members of the great healing art, which prevents as well as rectifies diseases.

In the schools, personal contact is unavoidable, and the susceptibility of the children is so great, that many must fall victims to infectious diseases. There are several methods of carrying contagion unwittingly. The school books are usually covered with muslin, worsted or cloth, and are frequently returned to school, after having been in the possession of children who have been ill with infectious diseases. The indiscriminate use of slate and lead pencils by the children is another source of disease. The washing of the slates with saliva is not an improbable method of disseminating diphtheria and other diseases. In the higher grades, it is now the custom in many of the schools to use paper pads and lead pencils, but even here the moistening of the points of the lead pencils with the tip of the tongue may be the means of transmitting certain diseases. The improper storing of the children's outer garments is another source of danger. Isolation and disinfection are the chief means to be employed by sanitarians for overcoming infectious diseases. Slates and slate pencils should be discarded entirely, and the pencils or pens supplied to the pupils should be individual property. Books should never be covered with any texile fabric, but with stout glazed paper. The outer clothing of the children should be placed in closets outside of the class room, and should be in some way disinfected while there. The children should be compelled to come to the class room with clean faces, hands and nails. Many teachers are very watchful and are often very quick to deteet infectious diseases. A mild attack of scarlet fever or measles is popularly considered to be non-contagious, and hence such children are often returned to the schools before they have recovered. Such practice can not be entirely avoided. Every child found to be suffering from sore throat should be immediately sent home, and not allowed to return to the school until well. It has been the custom of the board of health to keep the principals of the schools informed as to what localities within a certain distance of the school are infected. All of the school children are required to present vaccination certificates, or to be vaccinated if this has not been done for seven years. According to the rules of the department, the board of health does not perform such vaccination, except with the consent of the parents or the guardians of the children.

The oppressive tasks of the public schools, the unnatural requirements of modern society, fed, as it is, by depravity in all its forms, stimulate the passions and affective faculties, bringing a constant tension and strain on the understanding and invite insanity by way of many nerve channels, which did not formerly exist. These are the principal causes of the increased number of neurotic troubles, and should be the subject for serious reflection of the dentists, physicians, moralists and the government. This can not be safely disregarded. We must make a halt in these rapid proceedings, to contemplate a way of action for better things. Let us try in some degree to imitate the rural advantages of health.

Now note the difference in favor of the country schoolboy as he plods his way to the school-house, surrounded with shade and supplied with sparkling spring water; how he arrives at school happy and bright in the ruddy glow of health, his study being confined to the hours of the school; no books to carry back and forth, strong and active; while his city cousin but keeps alive with little color and less vigor, poor appetite, can not hold a semblance of the country boy, who has constant outdoor exercise, simple wholesome food, with the very best of appetite, grandest digestion, no dyspepsia, no constipation, no sallow skin, no carious teeth to mar his manly appearance or drive him to distraction; he grows apace with the weeds, well developed in body and mind, helping to make the record of such schoolboys as were Washington, Jefferson, Madison, Webster, Clay, Franklin and Adams; of such nobility our nation should be proud. It is of record that these men had noble mothers, all Cornelias pointing to her living jewels, and like the mother heroine declaring that rather than see her boys cowards or hirelings she would sooner see them brought back to her on the point of their swords; such mothers make noble sons, and such sons make noble nations; such mothers can come from no pale chlorotic schoolgirls as we see now, nor can they replace their

sires with the hardy generation which gained our independence. They must be healthy, vigorous; must have at the beginning of their pregnancy all the important conditions occurring in the make-up of women of their former grandames. This is not only important by reason of the peculiar conditions arising in the mother, but possesses a deeper meaning when we consider the new relationship which will soon spring up by means of a factor in the child. The mother is now called on to a renewed physiologic condition of existence. She has grown and lived for herself alone heretofore. She has to create and live for another, which must depend upon and derive its sole subsistence from the maternal blood, and if this blood is not of the strongest elements, that mother had better never be a mother. The healthy mother makes and keeps a strong healthy child. The mother who fails to nourish the child through want of strength, lack of milk or affection, is sure to lose the affection of that child. The lack of affection means neglect and loses to the nation its best hold on its children. Thus when we are confronted with the fact of how far our schoolgirl life is a perfect one in point of development and health, we say nothing of the morals; thus to have a healthy society formed only of healthy factors, these factors being mainly healthy, vigorous mothers; for the father may be but the pigmy of a man, and yet impart the germ of the healthy being, which the mother goes on perfecting, viz., such mothers as those of our forefathers who fought for and gave to us our independence. Such perfection of mind and physical development could never have resulted from the forced environments of the public schools, as now found in all our large cities.

From the crowding, the cramming and the prize seeking policy of our present system of public schools, give the growing girl freedom from too much restraint, give her ozone in abundance, plenty of room, plenty of light, plenty of bicycling, good company; allow mixed society, free expression, boots, spurs and hats, horseback and rowing; and you will create the coming woman with broad hips, big bones, full brow, courage like the lion and virtue like Bessemer steel.

A NATIONAL SANITARIUM FOR CONSUMPTIVES.

BY W. THORNTON PARKER, M.D.
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An article in the New York *Medical Journal* of January 4, 1896, by Dr. W. D. Bratton of the U. S. Marine-Hospital Service, concerning the Arid Region Sanitarium has attracted my attention. One would infer from this article that the idea of a national sanitarium for consumptives originated in the Marine-Hospital Service, either through Surgeon-General Woodworth, Surgeon-General Hamilton or Surgeon-General Wyman. I have examined the historical sketch of Surgeon Stoner in the annual report of the Marine-Hospital Service for 1893, but I am unable to discover therein any special reference to a national sanitarium for consumptives. Wishing to investigate the history of this movement for a national sanitarium, I wrote to the Marine-Hospital Service as follows:

To the Surgeon-General of the U. S. M.-H. Service.

Sir:—I am very much interested in a contribution by Dr. W. D. Bratton, concerning an arid-region sanitarium in the New York *Medical Journal* of Jan. 4, 1896. From several sources I have understood that the plan for a national sanitarium for consumptives originated with Surgeon-General Wyman of the United States Marine-Hospital Service. I am deeply interested in this matter and would be very glad to know the truth concerning the priority of literature bearing on this subject.

In contributions to medical journals, magazines, annuals, lectures, etc., I have for many years labored to bring this about. I have succeeded in interesting representatives, senators, and even the family of one of the presidents of the United States.

In 1891, General Cogswell, of Massachusetts, introduced a bill which I prepared and furnished to him. Later, in 1892, Senator Gallinger, of New Hampshire, introduced a joint resolution bearing on the same subject.

Some of the articles which I have published concerning a national sanitarium are in the following: The New York *Medical Journal*, May, 1881; *The Sanitarian*, May, 1883; *Archives of Medicine*, October, 1884; the Philadelphia *Medical Times*, February, 1885, and *The International Medical Annual*, 1891; also the Philadelphia *Medical Times*, 1892, besides some other items, lectures, etc.

If your communications or those of any other physicians antedate these, will you kindly inform me? I would be greatly obliged to you if you will furnish me with reports of Surgeon-General Woodworth and Surgeon-General Hamilton on this subject:

The following is the reply:

WASHINGTON, D. C., Jan. 30, 1896.

Dr. W. T. Parker, Groveland, Mass.

Sir:—In reply to your request of January 26, I send you Annual Report of the Marine-Hospital Service for 1893.

Regarding my own interest in the sanitarium and the arid regions of Arizona, I have only to say that the idea suggested itself to me while on duty as Surgeon at the Marine-Hospital at St. Louis, where I served from 1876 to 1879. I began some preliminary correspondence at that time relative to the matter, and personally urged it and made inquiries as to the most favorable location. When Dr. Bratton went south on "waiting orders" on account of pulmonary tuberculosis, I asked him to further investigate the subject. Respectfully yours,

WALTER WYMAN,
Supervising Surgeon-General, M.-H. S.

The Surgeon-General, Dr. Wyman, does not state whether he published any article concerning a sanitarium for consumptives, and I should infer that he confined his remarks to official correspondence with the Marine-Hospital Service. Neither does he state when Dr. Bratton went south. I should infer that it is the Arizona climate which he has in mind and which I have never recommended. I have been unable to find any reference to the climate of New Mexico, which I do recommend. I do not wish to be understood as intimating that Dr. Wyman makes any claim to which he is not justly entitled. It is merely interesting to consider the priority of the plan for a national sanitarium. If corresponding alone entitles to priority, I might say that in 1867, while serving in New Mexico, I repeatedly corresponded concerning its healthfulness as others have done before and since. What I wish to get at is: Where do we find the first printed reports in our medical journals or in the secular press concerning a national sanitarium for consumptives? I inclose a letter received from the Executive Mansion, Feb. 4, 1891, concerning the bill which General Cogswell introduced at my request for the creation of a national sanitarium for consumptives. I also inclose a letter received from General Cogswell, in March, 1892, and a letter received from the manager of the General Butler estate, November, 1895. Through the courtesy of Mr. Flower, the editor of the *Arena*, I am permitted to furnish a portion of the proof sheets of an article concerning "A National Sanitarium for Consumptives," which I have written. The following is a quotation therefrom:

"With consumption so prevalent in the United States, is there nothing our government can do to

mitigate the terrors of this disease? Is there any reason why we should not have a national sanitarium for consumptives? There are certainly *many* reasons why we should have such a humane institution, and it is the purpose of this paper to call attention to some of them at least. In the first place, consumption is sufficiently prevalent and so disastrously fatal that it would seem to be a question of *national* importance. Indeed, it is one worthy of the consideration of our government, and one which has already been brought forward, first in the House of Representatives by General Cogswell, of Massachusetts, in February, 1891, and later by Senator Gallinger, of New Hampshire, March 22, 1892. The first bill read as follows:

Be it enacted by the Senate and House of Representatives of the United States in Congress Assembled:

SECTION 1. That the establishment of a national sanitarium for the treatment of consumption be and hereby is authorized.

SEC. 2. That the President of the United States be and hereby is authorized to appoint a committee of three or more physicians to visit New Mexico and Colorado, to select a suitable site for a sanitarium for the treatment of consumption.

SEC. 3. That the traveling expenses and transportation, together with a reasonable *per diem* payment for services of committee, be provided by the Government.

SEC. 4. That the committee so appointed present, within six months after their appointment, to the President of the United States a report concerning the best location for such a sanitarium.

SEC. 5. That the Secretary of War be and hereby is authorized to furnish such committee a list of abandoned military stations in New Mexico and Colorado, and that one of these stations may be selected by the committee for the location of a national sanitarium.

SEC. 6. That the sum of $50,000 be and hereby is appropriated for the repair and maintenance of such a military station, to be used as a national sanitarium.

SEC. 7. That this act takes effect immediately after its passage.

In preparing this bill for presentation, the writer had little or no experience in such matters; he only knew that a national sanitarium for consumptives was and is urgently needed, and that more than one of the abandoned military posts would be admirably suited for the purpose. These posts or "forts" consist of several separate buildings of different sizes, the larger having served as barracks for the soldiers, the smaller for officers and their families. These are usually grouped around or about a large square reserved as a parade ground. They have generally been well built, and have cost the government large sums of money. Their separate and convenient arrangements make them especially suitable for the purposes of a sanitarium on the cottage plan. Thirty or forty thousand dollars would provide for the maintenance of about two hundred patients and pay the salaries of the attendants for one year. This amount of time would be sufficient to demonstrate the value of the experiment. Where the need for such an institution is so urgent and where the posts are abandoned and falling into decay from disuse it seems greatly to be regretted that the government can not make them serve the purpose of a national charity. Large two or three story buildings are not so desirable as the scattered quarters already referred to. The military buildings would be convenient and much more healthy, and could be economically brought into practical use. The following is the text of the joint resolution:

JOINT RESOLUTION.

Providing for the appointment of a commission to select a site for the establishment of a national sanitarium for the treatment of pulmonary diseases.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States shall appoint a commission consisting of three persons, two of whom shall be to select a site, and make report thereon to the President, for the establishment of a national sanitarium for the treatment of pulmonary diseases, said location to be in some one of the territories of the United States, and such of the public lands as may be unoccupied.

SEC. 2. That the commission so appointed shall, within six months after their appointment, report to the President of the United States where, in their judgment, is the proper place to establish said sanitarium, together with the boundaries of the land whereon to establish the same, and also rule and regulations for the government of the same.

SEC. 3. That upon the receipt of such report the President shall by proclamation withdraw the lands described in said report from sale, and from preëmption, homestead, or other entry or sale, and shall reserve the same for the purposes of said sanitarium.

SEC. 4. That the surveyors-general of the several territories shall under the direction of the Secretary of the Interior, make such surveys and render such assistance to said commission as the said commission may desire.

SEC. 5. That the traveling expenses, fares, and other expenses incident to the selecting and reporting upon such site shall be paid out of the treasury of the United States, upon vouchers properly certified, and the said commissioners shall each be paid ten dollars per day for each and every day they shall be actually employed on such duty.

SEC. 6. That fifteen thousand dollars, or so much thereof as may be necessary, is hereby appropriated out of any money in the treasury not otherwise appropriated, for the payment of said commission, their expenses, fares, clerk hire, and all other matters connected with or growing out of the selecting and reporting said site.

The bill introduced by General Cogswell provides for the occupancy of one of the abandoned military posts, of which Fort Lyons, Colorado, and Union and Seldon, New Mexico, are the most suitable. The twenty thousand dollars asked for to pay the expenses of a traveling commission would very nearly maintain Fort Union as a sanitarium for a year; and as the buildings of the post so recently abandoned would require only moderate outlay for repair, and could be at once brought into use, it would seem that that locality would be the most desirable.

It will be seen from the foregoing that the necessity for a national sanitarium has been recognized, and powerful agencies have been set in motion to bring about the desired action. If Congress will provide for a national sanitarium, we can accomplish untold good for thousands of poor American invalids.

Is it not a wonder that we have no national sanitarium for consumptives? We should have had such an institution inaugurated years ago, in fact, as soon as it would have been safe to inhabit the land. If, then, we secure the right to create a national sanitarium, where shall we locate it? In making the selection of a locality we must bear in mind the following requirements: It must be near some great artery of communication with *home;* that is, generally speaking, with our important center, in other words, it must be near a railroad, if not actually upon one. It must be near a town or village, affording opportunities to obtain necessary supplies of all kinds. It must contain or be accessible to agreeable society; and it must be able to provide suitable employment of mind and body for all its occupants. Another reason why we should have such an institution is because we have, in what is known as our Western Health Section, a climate wonderfully suitable for the cure of consumption. It is doubtful if anywhere else a more perfectly aseptic atmosphere exists than in this health section which is contained in New Mexico, Southwestern Colorado, Western Kansas and that portion of Texas known as the Panhandle. It is simply won-

derful in its curative action on weak or diseased lungs. I have witnessed this repeatedly, and there are very many people leading useful active lives in this section to-day who had been given up as incurable in the Eastern, Middle, Western or Southern States years and years ago.

The writer visited these general health resorts as early as 1867, riding on horseback from Fort Riley, Kansas, to Fort Cummings, New Mexico, very near the boundary of Old Mexico. Since then, on several occasions, he has visited the territories already referred to, and has frequently verified the facts concerning the wonderful climate to be enjoyed there. At the present time accommodations are expensive and oftentimes very indifferent. There are a few well-managed hotels which deserve to be ranked as "first class," but generally speaking it is difficult to find suitable accommodations for the average traveler in good health; and to provide for the delicate invalid is not only very expensive, but at any cost almost impossible. There are many people in moderate circumstances who would be thankful to go to New Mexico or Colorado, and whose friends would provide the necessary transportation, if they could only secure good and wholesome shelter after arriving at their destination. There are others, equally deserving and equally anxious to get well, who would go if they had sufficient means to subsist upon after their arrival. In the latter cases it would be very difficult to obtain even the necessary traveling expenses. These are additional reasons why we need a sanitarium in New Mexico. Purity, dryness of air and soil, moderate elevation, sunshine may all be obtained, and yet our patients mope and die in dispair from homesickness merely because the mind and body are not occupied with wholesome normal *work*. Idleness kills more people every year than many so-called dangerous diseases, and yet its name never appears in the nomenclature of disease as a possible cause of death! We may calculate our returns, and decide wisely as to climate; but if the patient's bodily comfort can not be assured and mental rest secured when he reaches his destination, our wise counsels will have been in vain, and idleness will have been the enemy to defeat all our best-laid plans for our patient's betterment. Occupation is, then, one of the remedies which must be provided at our national sanitarium, and this is the very thing needed to aid in making such an institution in part, at least, self-supporting. A wise administration will provide in part payment for board, useful and regular daily employment for the men and women; the women about the houses or in the open sewing room; the men about the grounds, gardens, stables, carpenter shops, etc.

A busy hygeia could be created, peopled by patients on the road to recovery, who perhaps very recently had well nigh abandoned hope for cure. What a noble charity a few thousands could inaugurate, if but the word could be spoken to open the gates of one of our frontier forts, and let these sick people inhabit houses which must soon fall to pieces from neglect! A very little money would create a useful sanitarium.

EXECUTIVE MANSION, WASHINGTON, Feb. 4, 1891.

W. T. Parker, M.D.

My Dear Sir:—The President is in receipt of your communication with the inclosed copy of the bill for a national sanitarium. You will understand, of course, that the President has nothing to do with the passage of bills in Congress, but should the matter come before him in the regular course for his official action it will have his careful consideration.

Very truly yours,

E. W. HALFORD, Private Secretary.

HOUSE OF REPRESENTATIVES, WASHINGTON, D. C., March 25, 1892.

Dr. W. T. Parker.

Dear Doctor:—Yours of the 23 inst. received. Senator Gallinger's bill, to which you refer, is a bill based upon the one I presented at your request, as, at his request, I furnished him with a copy of it only the other day.

Yours very truly,

W. COGSWELL.

LOWELL, MASS., Nov. 1, 1895.

Dr. W. T. Parker.

Dear Sir:—Last fall our agent, Mr. M. S. Baldwin, of Chicago, Ill., suggested that Ft. Union might be made a sanitarium for consumptives, and thus we could *save the buildings* and *strengthen our title* to that particular part of the Mera Grant which is still unpartitioned. Last January a Dr. Gentry, of Chicago, Ill., who has compiled a huge homeopathic work, went to Fort Union to establish a sanitarium. . . . . Now we are about to let Dr. Wm. C. Bailey, present address 3900 Lake Ave., Chicago, make a trial. He was a pupil of Koch. He was present as a member of the late sanitary meeting at Denver, Colo. If your efforts ever came to my notice I had forgotten it. Probably Mr. Baldwin had heard of it.

Yours truly,

A. AMES.

PENINSULA DEL CORONADO.

BY WALTER LINDLEY, M.D.

PROFESSOR OF GYNECOLOGY IN THE MEDICAL COLLEGE OF THE UNIVERSITY OF SOUTHERN CALIFORNIA; PRESIDENT CALIFORNIA STATE MEDICAL SOCIETY 1891.

LOS ANGELES, CAL.

In Los Angeles, as elsewhere, the physician and his family must take their summer vacation. In fact it may be more necessary here, as there is but little change in the seasons, while in New York there are the four regular seasons, each decidedly different from the other. Sometimes we go to the mountains from ten to fifty miles away, sometimes to Catalina Island twenty-five miles from the mainland, but this year we decided to take our outing on the Peninsula of Coronado, which juts out from the mainland in front of San Diego, 126 miles south of Los Angeles. This trip can be taken by sea or rail, the latter being usually chosen. The Santa Fé Railroad in traversing this distance takes a delightful route, first through the orchards and orange groves (never say orange orchards) of Los Angeles and Orange Counties for fifty miles and then at the old mission of San Juan Capistrano (meaning St. John the Beheaded) the road then takes the immediate coast so that for the next sixty miles the varying but constant lines of surf beat up within a few feet of our car window. At San Diego an electric car runs to the ferry, and in ten minutes more we crossed the San Diego Bay and stood upon the Peninsula del Coronado.

Coronado Beach is the name of the peninsula that projects out in front of San Diego and National City, and gives them their excellent harbor and especially salubrious climate. It was purchased in 1886 by a company, with E. S. Babcock as president. To-day it is the site of one of the liveliest, prettiest towns to be seen in California. Ten years ago a barren waste; to-day a prosperous town with hundreds of pretty cottages, with beautiful shrubbery and flower gardens, attractive parks and delightful drives. Coronado is twelve miles long, and varies in width from a few yards at the isthmus to two miles, where the town and hotel are located. From the ferry a ride on the upper deck of a two-story electric car carries the tourist through avenues of palms and magnolias to Hotel del Coronado. This hotel contains nearly eight hundred rooms, and covers more space than any other hostelry in the world, the amount of ground on which

it stands being about four and a half acres. It is built in what is called the old mission or Spanish style, forming a quadrangle around an interior court or patio. The court is beautiful with fountains playing, climbing vines, the bright red hibiscus, the royal date palms, and many other varieties of plants and flowering shrubs. The hotel is surrounded by 100 acres of gardens and lawns, and there are no signs of: "Keep off the grass." "Don't pick the flowers," or "Look out for the dog." The hotel was opened in 1888, and has since entertained over three hundred and fifty thousand guests.

While the winter climate of Coronado is delightful, the summer is most remarkable, as is indicated by the following table:

Comparative maximum temperature during July and the first fifteen days of August, 1895, in Boston, Baltimore and Atlantic City upon the Atlantic coast, and Coronado and Los Angeles upon the Pacific coast.

	Boston.	Baltimore.	Atlantic City.	Coronado.	Los Angeles.
July 1	78	73	73	69	77
July 2	72	77	73	68	75
July 3	77	80	74	70	73
July 4	71	76	77	67	75
July 5	78	71	68	67	82
July 6	74	83	71	68	85
July 7	83	86	76	68	84
July 8	85	83	77	67	78
July 9	78	90	74	67	77
July 10	75	75	88	67	75
July 11	68	69	75	66	74
July 12	78	78	70	65	76
July 13	72	82	72	66	80
July 14	71	76	73	71	82
July 15	69	74	77	75	83
July 16	69	82	73	71	81
July 17	66	90	74	69	81
July 18	82	92	77	72	82
July 19	82	85	85	75	79
July 20	80	93	75	65	75
July 21	82	95	78	66	74
July 22	83	88	81	67	77
July 23	82	86	88	66	78
July 24	82	78	84	69	83
July 25	81	83	75	70	82
July 26	80	85	75	71	79
July 27	79	87	77	71	78
July 28	77	78	76	70	77
July 29	80	82	79	71	78
July 30	79	81	75	70	80
July 31	72	74	74	67	81
Mean	77	81	76	68	78
August 1	71	75	72	73	83
August 2	73	79	75	70	83
August 3	79	84	78	71	79
August 4	82	88	78	68	85
August 5	86	87	75	70	84
August 6	89	86	76	72	83
August 7	80	89	76	71	83
August 8	84	91	76	70	79
August 9	84	94	81	70	80
August 10	86	96	79	69	78
August 11	79	95	84	69	76
August 12	73	91	84	70	78
August 13	73	89	80	69	83
August 14	79	87	85	74	82
August 15	82	87	85	71	88
Mean	80	87	79	70	81

The above table shows that during the month of July, 1895, the mean maximum temperature of Boston was 77 degrees, of Atlantic City 76 degrees, of Los Angeles 78 degrees, and of Baltimore, Md., 81 degrees, while the mean maximum temperature during the same month at Hotel del Coronado was only 68 degrees. During the first fifteen days of August the maximum temperature of Baltimore was 87 degrees, of Los Angeles 81 degrees, of Boston 80 degrees and of Alantic City 79 degrees, while of Coronado during the same time it was only 70 degrees. The annual mean temperature of a locality is practically of no value as a guide to climatic conditions, but the mean maximum temperature is quite a different proposition, and is a very graphic indicator of the real comforts and discomforts of the climatic conditions.

The nights of Coronado are dry and pleasant. Persons can be out of doors with impunity at all hours. This is due to the fact that there is invariably a night breeze from the Colorado Desert. This climate has proved particularly efficacious in the relief of throat, bronchial and nervous difficulties. Mr. Babcock, the proprietor of this great hotel, came here himself a condemned consumptive in 1884. He is now the picture of health and activity.

There is excellent fishing, hunting, boating and bathing for entertainment and exercise. Or for those with different inclinations, there are bicycles and riding horses and the usual out-door games.

Inside the hotel the appointments and service are excellent, but Californians in both winter and summer live in the open air, giving the time begrudgingly to the house that is required for sleeping.

TREATMENT OF TYPHOID FEVER, WITH REPORT OF TWO CASES, BY WOODBRIDGE METHOD.

Read before the Medical Society of the District of Columbia, Jan. 8, 1896.

BY STERLING RUFFIN, M.D.

PROFESSOR OF MEDICAL JURISPRUDENCE AND DEMONSTRATOR OF ANATOMY, MEDICAL DEPARTMENT OF COLUMBIAN UNIVERSITY.

WASHINGTON, D. C.

With the exception of pulmonary tuberculosis, there is perhaps no disease about which more has been said and written than typhoid fever. Especially is this true of the last few decades. The literature of the medical world of to-day is filled to overflowing with treatises on the subject, a circumstance at which we do not wonder after a moment's reflection of its frequency, its almost universal distribution and the dangers to which its unfortunate victims are subjected. There is no disease known to us which has contributed with more regularity to the mortality of the world. During the last fifteen years in the cities of Paris, Berlin, New York, Philadelphia, Boston, Chicago and Baltimore it has annually killed upward of five persons out of every 10,000 of their population, and in Liverpool in 1865 it was responsible for 50 deaths to every 10,000 inhabitants. In our own city during the ten years ended December, 1893, 1,500 people died of it; the records of the health office show 182 deaths from it in the District of Columbia during the six months ended Dec. 31, 1895, and there can be no more striking example of its ravages than the Peruvian epidemic of 1855–56, during which the death roll from this disease alone reached 250,000.

The purpose of this paper is to consider the curative treatment, in contradistinction to prophylaxis, which latter subject has been discussed so frequently and so ably in this Society. It was not until about 1810 that typhoid fever was recognized as a distinct disease. It is interesting to briefly review some of the early modes of treatment for purposes of comparison with present methods. Hosack, of New York city, who was one of the earliest writers on the subject, outlined a course of treatment in 1815 which was remarkably good for a time when the disease was almost unrecognized and but little understood. He recognized the necessity of a bland, nutritious diet, and of maintaining the circulation by the liberal use of stimulants, and advised ablutions twice daily of vinegar and water. To control restlessness and induce sleep he used anodynes as required.

In striking contrast to this conservative and intelligent treatment was that championed a few years later by Bouillard, who relied upon copious and frequent

venesections and the application of leeches and wet cups. The number of bleedings varied from one to five or six during the course of the disease, from twelve to sixteen ounces of blood being drawn at each sitting and it was advised that nearly or quite as much more should be abstracted by the leeches and cups. This was the rule whether the patient was seen early or late in the disease, and the treatment was appropriately called "blow upon blow, dash upon dash."

The treatment of Larroque, who was a contemporary of Bouillard, was also very aggressive. He began by giving an active antimonial emetic which was immediately followed by a purgative, regardless of the state of the bowels, period of the disease or condition of the patient; and thereafter the emetic and cathartic were alternated at short intervals throughout the disease. In the United States, the treatment in vogue in the Massachusetts General Hospital may fairly be taken as index of the sentiment of the day. In that institution prior to 1835, cathartics and emetics were used either separately or combined. Great importance was attached to a proper determination of which should be given first, the cathartic or the emetic. Given together, the combination formed the "emetico-cathartic," a term prominent in the earlier literature. Calomel was usually a part of the combination and its daily administration was regarded as a matter of course. If salivation was induced, it was considered to be an unforeseen accident and a discomfort which the patient should bear with fortitude rather than lose the benefit of so potent a remedy for good. In cases which were not doing well on the vomiting and purging plan, if their symptoms were considered of an inflammatory nature, it was customary to bleed, though blood-letting was not followed to the same extent as in France.

While these measures were being used in the Massachusetts General Hospital, Chomel, of France, was advocating his symptomatic or rational method, in which cinchona and the chlorid of sodium were prominent features. The sodium salt was given by the stomach and rectum; poultices of it were applied to the abdomen; the bed was sprinkled with a solution of it; and vessels containing it were put under the bed. In addition, refreshing drinks, sponging of the body with vinegar and water, cold applications to the body or head; hot poultices, mucilaginous enemas, tonics, cordials and aromatics were used as they were thought to be indicated; and, in event of inflammatory symptoms, moderate bleeding was thought to be of service. The year 1839 records the failure of this treatment, and it went the way of most of its predecessors.

From this time on until the advancement in 1861 of the cold water treatment by its eminent re-discoverer, Brandt, many and varied plans were proposed, tried and, for the most part, discarded as unsatisfactory. A curious plan was that proposed in 1860 by Baker, who believed he had solved the problem by the external use of animal fat. The fat was applied twice daily for as long a time as the skin would take it up; and it was claimed for this practice that patients emaciated much less and made a much speedier recovery than if otherwise treated.

There was but one method, however, which had gained more than temporary preëminence or had secured anything like the general favor of the profession. This method, the natural evolution from the conservative teachings of Hosack as early as 1815, was called the expectant plan, and was almost solely relied upon in the management of typhoid fever until the revival of hydrotherapy. It consisted of absolute rest in bed, liquor diet, good nursing, favorable hygienic surroundings, and the administration of a mineral acid or quinin, together with such other remedies as the particular symptoms in any case seemed to indicate. This rest and symptomatic treatment was the best known to the profession until the publication in 1861 of a work entitled "The Hydrotherapy of Typhoid Fever," by Brandt, of Stettin, whose teachings have revolutionized the treatment throughout the civilized world. The cold water idea, however, was not originated by Brandt, for fevers were treated by cold effusions as long ago as 1787 by Currie, of Liverpool, who claimed that they had the power not only of moderating febrile symptoms, but also in many cases, of cutting short the disease. Currie's mode of treatment enjoyed at first a high degree of popularity, which lasted for about a quarter of a century, but finally fell into disuse, probably in consequence of the exaggerated character of the claims made for it by its advocates. But the merit of having brought it again into practice, and of having secured for it its present prominence in the management of the disease seems, beyond all doubt, to be due to Brandt. The cold water treatment may be applied in the form of the cold bath, as advocated by Brandt, or in the form of any of its various modifications, namely, cold affusions, cold pack, cold spongings, cold compresses, and frictions with ice. Details as to indications calling for the cold water treatment, or as to the method of giving the bath or applying its modifications, are too well known to require repetition here. In whatever form used, the efficacy of the treatment depends upon its power of abstracting heat from the body and of stimulating the nervous and circulatory systems, and is useful just in proportion as these objects are accomplished. There is no reason to believe that the treatment has any power to modify the conditions upon which the production of heat depends, but there is, on the other hand, no doubt that under its proper use distressing and dangerous symptons are often greatly relieved, not infrequently indeed as if by magic. The cold is believed to act by diminishing the metamorphosis of the tissues and the consequent loading of the blood with effete products which the hyperpyrexia has a tendency to promote. Intestinal hemorrhage, perforation of the bowel, and great weakness of the heart's action are commonly and probably correctly regarded as contraindications to the use of cold baths. They are specially to be avoided, according to Liebermeister, when the force of the circulation is so far reduced that the surface of the body is cold while the interior is very hot. The application of cold externally combined with the expectant plan of treatment, so far as the administration of drugs is concerned, is world-wide in its use to-day, and has reduced the death rate from typhoid fever to about one-third of the death rate during the years preceding the introduction and use of the Brandt method.

Under the expectant plan of treatment, Cotting, of Boston, reports a series of 307 cases with a mortality of 10 per cent.; Austin Flint, one series of 70 cases with a mortality of 20 per cent. and another series of 78 cases with a mortality of 10.25 per cent.; in the Glasgow Fever Hospital, from 1871 to 1879, 2,331 cases were treated with a mortality of 11.3 per cent.; in the Montreal General Hospital, during a period of

twenty years, 1,889 cases with a mortality of 11.2 per cent.; in the London Fever Hospital 1,820 cases with a mortality of 18.29 per cent.; in the hospital at Kiel 330 cases with a mortality of 15.4 per cent.; in the Basel Hospital, in Switzerland, 1,718 cases with a mortality of 27.3 per cent.; and in the Brisbane Hospital, in Australia, 1,838 cases with a mortality of 14.8 per cent.; making in all 10,381 cases with an average death rate of 15.91 per cent.

Under the Brandt treatment, 160 cases were treated in the hospital at Kiel, with a mortality of 3.1 per cent; in the Basel Hospital 850 cases with a mortality of about 10.5 per cent.; and in the Brisbrane Hospital 797 cases with a mortality of 7 per cent.; while Brandt himself reported a total of 871 cases, collected from various sources, exclusive of the cases already referred to, with a mortality of but 1.26 per cent.; making a total of 2,678 cases, with an average death rate of 6.01 per cent.

But the brilliant results of the Brandt method have only stimulated the search for means to still further reduce the death rate. The search for specifics is as old as the theory that the disease is generated by a specific cause. The belief that an alkalin poison was the cause of the disease initiated many years ago the use of mineral acids. Calomel, which was used so extensively in former years for its antiphlogistic effects, has been highly recommended in Germany as a specific, and it is claimed for the calomel treatment, 7½ grains usually four times daily on alternate days, that the mortality of the disease may be materially lessened. Among a host of other remedies, which have been used for their supposed power of destroying the typhoid bacillus, may be mentioned iodin, carbolic acid, salol, thymol, naphthalin and beta-naphthol. In Liebermeister's article in Ziemssen's Cyclopedia, are reported 223 cases treated with calomel with a mortality of 11.7 per cent., and 239 cases treated with iodin with a mortality of 14.6 per cent. A much used combination to-day is iodin and carbolic acid, prescribed in connection with the external application of cold in the form of the bath, or some of its sundry modifications. Burney Yeo very warmly praises the use of chlorin water and quinin, and attributes to them antiseptic action of marked value.

Johns Hopkins Hospital Report, Vol. IV, No. 1, published about eighteen months ago, stated in reference to typhoid fever: "The duty of the physician is to see that the patient is properly nursed and fed, and that dangerous symptoms, should they arise, are combatted by appropriate remedies. . . . So far as drugs are concerned, his attitude is best expressed by the term 'armed expectancy.' . . . Medicines are not as a rule indicated. No known drug shortens by a day the fever. No method of specific treatment or of antisepsis of the bowel has passed beyond the stage of primary laudation."

During the latter part of last summer in looking over the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for August 10 last, my attention was attracted by an article written by Dr. John E. Woodbridge, of Youngstown, Ohio, which had been read in the preceding May at the Forty-sixth Annual Meeting of the AMERICAN MEDICAL ASSOCIATION at Baltimore; and I was startled by the statement that "death is a wholly unnecessary consequence of typhoid fever, and that every case in which proper treatment is instituted sufficiently early in the course of the disease can be aborted." This statement was so sweeping and so positive, and if true meant so much that I immediately resolved to investigate Dr. Woodbridge's methods. I found that the article from which I have just quoted was one of a series of several articles which he had written and which he had published in the JOURNAL at short intervals since Feb. 10, 1894; and that the bold assertion that death is an unnecessary consequence of any early and properly treated case of typhoid fever, knowingly made in defiance of all former teachings, was but a repetition of what he had said many times before. Dr. Woodbridge concluded many years ago, he states, from bedside observations that typhoid fever was due to a specific germ whose earliest habitat was in the alimentary canal, and that if that canal could be saturated early in the disease with drugs which were fatal to the germs, but harmless, or better still, beneficial, to the patient, the problem of treating typhoid fever was solved. With this belief firmly fixed in his mind he began in 1882 to treat the disease by giving such drugs as in his opinion would destroy the germ; and his treatment to-day is essentially the same as that of thirteen years ago. It consists, so far as drugs are concerned, of three formulas:

No. 1 tablets, each containing:	
Podophyllum resin	1-960 gr.
Mercurous chlorid, mild	1-16 gr.
Guaiacol carbonate	1-16 gr.
Menthol	1-16 gr.
Eucalyptol	q. s.
No. 2 tablets, each containing:	
Podophyllum resin	1-960 gr.
Mercurous chlorid, mild	1-16 gr.
Guaiacol carbonate	1-4 gr.
Menthol	1-16 gr.
Thymol	1-16 gr.
Eucalyptol	q. s.
No. 3 capsules, each containing:	
Guaiacol carbonate	3 grs.
Thymol	1 gr.
Menthol	1-2 gr.
Eucalyptol	5 ♏

Tablets of formula No. 1 are given every fifteen minutes during the first twenty-four hours of the treatment, and continued into the second and even third day, if necessary, until five or six evacuations of the bowels are being secured daily.

Tablets of formula No. 2 are then begun and at first given every hour or two, alternating with No. 1. After a short time the intervals are gradually lengthened, with the object of reducing the frequency of the movements to one or two daily evacuations, during which time it is claimed, the temperature will drop to normal or thereabouts. Should ptyalism occur (which is said to be rare) the treatment is temporarily discontinued, and chlorate of sodium or potassium freely used until the ptyalism is controlled.

On the fourth or fifth day the capsules of formula No. 3 are begun, of which one is to be given every three or four hours until convalescence is established. The tablets and capsules are to be washed down with copious draughts of distilled or sterilized water, or, if indicated, with some laxative or diuretic mineral water.

Dr. Woodbridge claims that under this treatment he has never failed to abort a case of typhoid fever seen before the eighth day and that cases seen at a later period will usually be favorably modified by it and their duration shortened. In support of his claim he has reported 1,200 consecutive cases, about one-third of which were treated by himself and the remaining two-thirds by 117 other physicians, with but nine deaths in all. In his own cases he states he

has not lost a patient, whereas prior to 1882, the year in which he introduced his treatment, to which he gives the name "Intestinal Antiseptic Method," the mortality in his typhoid cases was 17 per cent. Of the nine deaths occurring in the 800 cases treated by other physicians, he states that seven certainly, and possibly eight, were due to grave complications (developed prior to commencement of the treatment?) or to the late stage of the disease at which treatment was begun; or possibly to faults of preparing or administering the remedies. It is not claimed, it is to be noted, that all cases can be cut short, unless the treatment is begun before the eighth day. The greatest importance is attached to a early diagnosis and it is recommended that treatment be begun as soon as typhoid fever is suspected, otherwise, that is if time is consumed by waiting to make a positive diagnosis, the treatment so far as its abortive effect is concerned, may fail. Nor is it claimed that the treatment when begun late in the disease will always favorably modify its course or save the patient's life.

I am aware that Dr. Woodbridge has been severely criticised by the members of every society before which he has read a paper, but it is a noticeable fact that his critics were without exception men who had not tried his treatment. When one hears the startling statement that several hundred consecutive cases of typhoid fever have been treated without the loss of a case and with an average illness of only about twelve days, he is naturally incredulous and inclined to question the diagnoses. Yet upon reflection it is difficult to conceive that an intelligent man, which Dr. Woodbridge certainly is, who was accustomed to typhoid fever prior to 1882, having lost up to that time 17 per cent. of his cases, should suddenly lose the art of recognizing it, or that a physician with increasing experience and opportunity for observation, should suddenly cease to come into contact with the disease. I do not doubt that many of his own cases and of the cases reported by other physicians were not typhoid, but, on the other hand, I do not doubt that a very large proportion of the cases were true enteric fever. In many of his cases the diagnosis was made by other physicians before he was called; in many others, other physicians were called for the sole purpose of confirming the diagnosis. I am aware, too, that many of Dr. Woodbridge's critics have dealt harshly with him under the impression that he ignored dietetic restrictions and was disregardful of the value of external cold for the purpose of heat absorption. This impression is entirely erroneous. Early in November last, I wrote to inquire of Dr. Woodbridge what restrictions in diet he would advise, what importance he attached to the use of cold baths, whether it was his custom to disturb his patients, if they should be asleep, at such frequent intervals as every fifteen minutes while using tablets of formula No. 1 during the first twenty-four or forty-eight hours of their illness, and whether he had ever lost a case of typhoid fever when he had begun his treatment from the onset of the disease. His answer, dated Nov. 15, 1895, was as follows:

My Dear Dr. Ruffin:—You have set me a rather difficult task and you will, I hope, pardon me if I fail to answer your questions as satisfactorily as I would like to do.

You ask 1st: What restrictions I advise as to diet in typhoid fever. Without entering into a discussion as to the pathologic anatomy of the disease, it is safe to say that there is no other disease with which we are familiar in which the diet should be so carefully restricted to liquid foods of the most assimilable sort and such as leave behind the least detritus. This is not intended as instruction for you, but to correct an erroneous impression that has gone abroad that because I have sometimes permitted my patients to eat solid foods, I have advised such a course. This is not true, but I have been engaged in a most herculean task to demonstrate the fact that typhoid fever can be so effectually aborted as to leave no anatomical lesion behind, and for this reason (and for no other) I have sometimes allowed my patients solid food throughout the treatment—a course which would be most justly censurable should any harm result to the patient.

2d: If typhoid fever patients are properly treated from the onset of the disease, baths, save for the purpose of cleanliness, will be unnessary; however, it not unfrequently happens that I am called at late stages of the disease and in such cases I sometimes advise a sponge bath, or if the exigency is great, I sometimes apply guaiacol externally.

3d: During the first twenty-four or forty-eight hours of treatment, patients would rarely sleep much, but even if they did I would awaken them every fifteen minutes. This answer applies to both night and day.

4th: I have not since early in 1882 lost a case of typhoid fever when the treatment was begun early and have not since that time had a death in my private practice from typhoid, malarial or any other continued fever.

Respectfully yours,

JOHN ELIOT WOODBRIDGE.

P. S. It is rarely necessary to repeat the doses of medicine every fifteen minutes for a longer period than twenty-four hours, but if I fail to get the desired effect, I continue them until that has been reached. After that one need never awaken the patient. W.

During the past summer and fall and early part of the present winter, I had under my care four cases of typhoid fever in which charts and records were kept by competent nurses.

Case 1.—F. S., female, aged 12. First seen July 8; had been ill two days; headache; temperature 100 F.; slight looseness of bowels. Patient put to bed; liquid diet advised; mercurial purge prescribed, to be followed by simple bismuth mixture. Later typhoid fever diagnosed, and the subsequent management consisted of absolute rest in bed; rigid liquid diet; small doses of muriatic acid and later in the disease emulsion of turpentine; sponge baths and wet packs, and when the temperature ranged very high, frictions with ice. After continuous fever for 58 days, this child made a tedious but uneventful convalescence, and her restoration was believed to be complete.

Case 2.—D. S., male, aged 7, brother of case 1. First seen July 23; moderate headache; slight diarrhea; general malaise; temperature 99.5. Probable diagnosis of typhoid fever made immediately, the diagnosis resting chiefly upon the ground of the child's unavoidable association with his sister and of their probable mutual exposure to the unknown source of infection from which the girl had contracted the fever. Temperature rose rapidly; marked delirium from 4th to 11th day; diarrhea and meteorism at times pronounced; at end of third week both submaxillary glands suppurated and were freely opened; both parotids then suppurated and were also freely incised. August 29, 38th day of disease, nausea and vomiting set in, which persisted to the end, the vomited matter frequently containing moderate quantities of blood; August 31 profuse intestinal hemorrhage, with fall in temperature in four hours from 104.2 to 96; subsequently smaller hemorrhages; nervous symptoms severe throughout. Treatment: absolute rest; liquid diet; sponge baths; sulpho-carbolate of zinc a portion of time and iodin and carbolic acid mixture a portion; for the persistent vomiting, creasote, minute doses of calomel, oxalate of cerium, cocain, and morphia were in turn used without advantage. Stimulants were given freely from the time the circulation began to be embarrassed. Termination, death September 12, the 52d day, from exhaustion.

Case 3.—H. P., female, aged 20. First seen November 9; had then, it was believed, been ill for twelve days, during which time she had been under the care of Dr. Charles A. Ball, with whom I saw the patient and through whose courtesy I am permitted to make this report. Tongue coated, with red margins and tip; slight tympanites; temperature 102.8. Prior to this time no chart had been kept. The temperature, however, had been taken every day, but at irregular intervals, and the thermometer had always shown fever ranging in the evening from 102.5 to 103.5. There had been no chills and no quinin had been given. I concurred in the diagnosis of typhoid fever which had been made, basing my opinion upon the facts that there had apparently been a continuous fever for twelve days; that

there had been a continuous diarrhea or tendency to diarrhea (on the day before I first saw the patient she had had eight operations); that there was some tympanites; and that careful examination failed to show any cause for the symptoms, if typhoid fever was excluded.

November 9: Temperature as stated, 102.8. Ordered Woodbridge tablets, formula No. 1, and directed that one tablet be given every fifteen minutes.

November 10: Morning temperature 99.8; evening temperature 101.8; two stools. Tablets continued.

November 11: Morning temperature 100.4; evening temperature 101; three stools. Tablets every fifteen minutes discontinued; No. 2 ordered, one to be given every two hours, alternating with No. 1.

November 12: Morning temperature 101.6; evening temperature 102; two stools; slight ptyalism. Treatment discontinued; mouth wash of chlorate of potash ordered.

November 13: Morning temperature 100; evening temperature 100.6; four stools; ptyalism improved; in afternoon tablets resumed as before.

November 14: Morning temperature 98.8; evening temperature 100; two stools. Tablets discontinued and capsules of formula No. 3 ordered, one capsule to be given every four hours.

November 15: That is seventh day of treatment and eighteenth day of disease, morning and evening temperature normal and remained so.

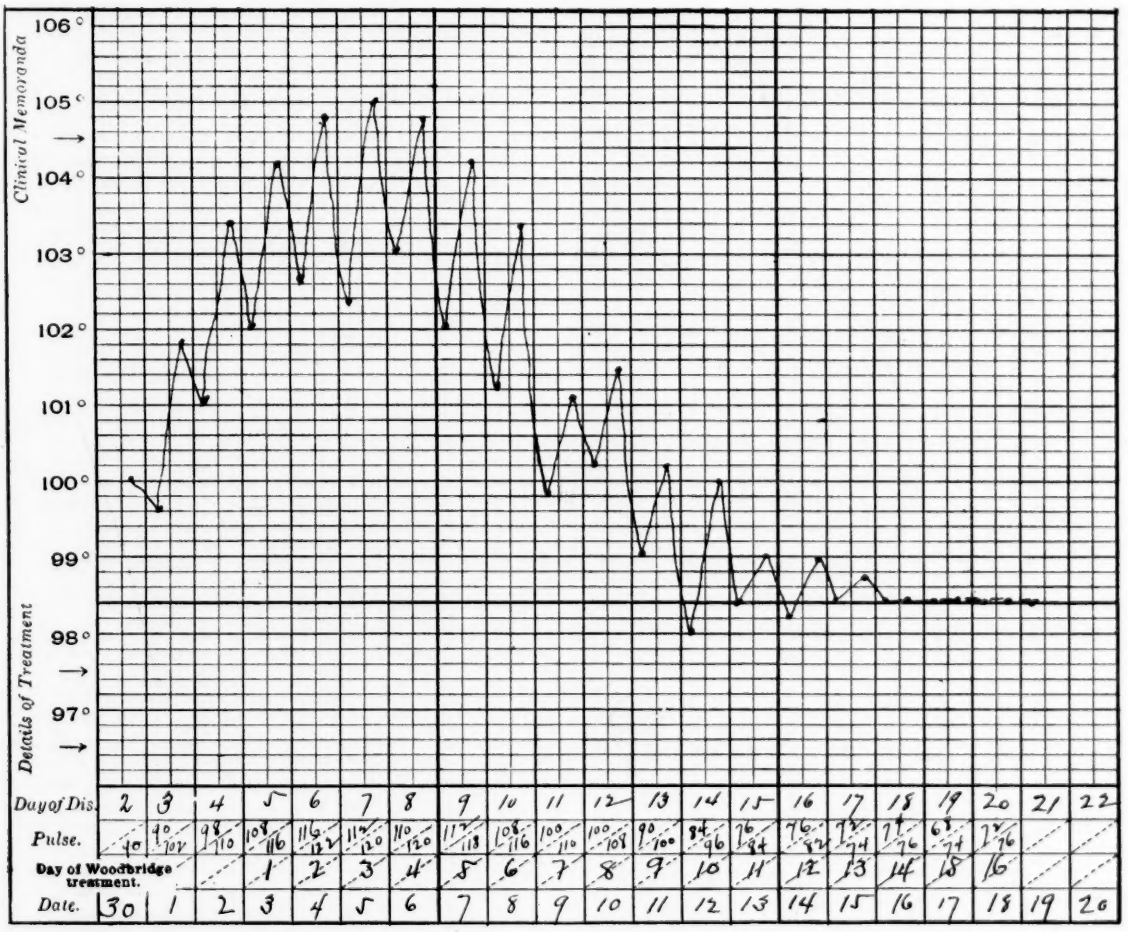
After November 9, the first day the patient was seen by me, no medicines other than the Woodbridge tablets and capsules were given and no baths were used. Rest in bed was absolute, and the diet wholly liquid. No solid food was allowed until the temperature had remained normal for ten days. If this was in reality a case of typhoid fever, as I believe it was, the fact of its having terminated on the eighteenth day is unusual, and I think it reasonable to conclude that its duration was probably shortened by the Woodbridge treatment.

Case 4.—D. R., male, aged 31. First seen on evening of November 30; general malaise; headache; pulse 90; temperature 100. Sister of patient, I was told, was at this time convalescing from typhoid fever after an illness of five weeks. Patient ordered to bed; restricted diet; powders of bismuth and salol prescribed.

December 1: Morning temperature 99.6; evening temperature 101.8; three stools; slight epistaxis during preceding night.

December 2: Morning temperature 101; evening temperature 103.4; two stools; complained of headache. Sponge baths ordered to be given every two hours while temperature was above 102.5.

December 3: Morning temperature 102; evening temperature 104.2; pulse in evening 116; six stools. Moderate tympanites. Baths continued; bismuth and salol discontinued; Woodbridge tablets No. 1 ordered, one tablet to be given every fifteen minutes.



CASE 4; D. R., AGE 31.

December 4: Morning temperature 102.6; evening temperature 104.8; pulse in evening 122; three stools; tympanites as on previous day and diffused abdominal pain complained of. Frequent intervals of administering tablets also complained of. Baths and tablets continued.

December 5: Morning temperature 102.3; evening temperature 105; pulse in evening 120; three stools. Tablets No. 1 every fifteen minutes discontinued; No. 2 ordered, one to be given every two hours, alternating with No. 1; patient put in wet pack.

December 6; Morning temperature 103; evening temperature 104.8; pulse in evening 120; two stools. Tablets continued as on preceding day; patient again put in wet pack.

December 7: Morning temperature 102; evening temperature 104.2; four stools. Tablets continued and wet pack again used.

December 8: Morning temperature 101.2; evening temperature 103.4; one stool. Tablets continued; sponge baths when temperature was above 102.5.

December 9: Morning temperature 99.8; evening temperature 101.1; one stool. Tablets No. 1 discontinued entirely; capsules of formula No. 3 ordered, one to be given every four hours, alternating with tablets No. 2.

December 10: Morning temperature 100.2; evening temperature 101.5; two stools; same treatment.

December 11: Morning temperature 99; evening temperature 100.2; no stools; same treatment continued.

December 12: Morning temperature 98; pulse 84; evening temperature 100; one stool; tablets discontinued entirely; one capsule every four hours continued.

December 13: That is fourteenth day after first seeing patient and eleventh day of Woodbridge treatment; morning temperature 98.4; evening temperature 99; morning pulse 76; no stools. Temperature after this day did not register above 99.

Liquid diet continued for eight days. Emaciation was moderate; convalescence uneventful. There were no delirium or rose spots, but I believed at the time and I believe now that I was dealing with a case of typhoid fever of more than moderate severity, which terminated not later than the sixteenth day of the disease. Repeated examinations of the chest were made with negative result, and at no time did the character of the breathing point to any acute pulmonary trouble. Examination of urine negative.

I am not yet ready to say with Dr. Woodbridge that his treatment will abort every early case of typhoid fever, or that it will favorably modify the course of all cases; nor can I at present say that the remedies upon which he relies necessarily act in all cases by coming into direct contact with, and destroying, the bacilli of the disease in the alimentary canal, for we well know that, at least during the late stages of the disease, the bacilli are found in the blood and in various organs of the body. But I do believe that his method of treatment will favorably influence, and, if it be begun early, will possibly abort, many cases of typhoid fever; and if this be true, it is of trifling importance, except as a matter of scientific interest, to explain the exact *modus operandi* of the drug which he has recommended. Quinin was an efficient cure for malarial fever long before the specific cause of the disease was discovered.

INTERESTING CASES OF PERINEAL SECTION, WITH REMARKS.

BY G. FRANK LYDSTON, M.D.

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(*Concluded from page 528.*)

Case 50: Deep Stricture of Large Caliber with Irritable Bladder.—A medical man, 36 years of age, consulted me regarding an intractable gleet, with chronic cystitis and a small perineal fistula. I found the bladder in fairly good condition, the so-called chronic cystitis being a chronic follicular prostatitis (so called posterior urethritis) from old gonorrheal infection. The urethra would admit a 28 French sound, but there was marked deep spasm. With a 15 bulb (bulb exploratrice of Guyon) a distinct large calibered linear stricture was found at the bulbo-membranous junction. The condition of this case and the indications seemed perfectly plain. Infection from the imperfectly drained canal behind the stricture, explained the chronicity of the prostatic trouble, and the occurrence of a small peri-urethral abscess which had undoubtedly preceded the fistula. The reflex irritation produced by the stricture was sufficient to account for the spasmodic contraction of the true sphincter vesicæ and its environs, and explained in some degree the vesical irritation. All attempts to relieve this case by dilatation, deep injections, etc., had been worse than useless. In accordance with the views I have elsewhere expressed,[1] I suggested perineal section as the only logical method of treatment. The operation was easily performed upon a large grooved staff, and followed by ten days' perineal drainage. The meatus and several penile strictures were also cut. The result was all that could be desired; the patient has gained twenty pounds in weight, his gleet and vesical irritation have disappeared, and he now (three months after operation) considers himself a well man.

[1] Trans. Southern Surg. and Gyn. Assn., 1894.

Case 51: Deep Irritable Stricture of Large Caliber.—A man, 32 years of age, a traveling salesman, who according to his account had had gonorrhea innumerable times, consulted me regarding stricture of several years' duration. This had been treated from time to time by sounds, but could never be dilated to more than 20 Charriere. Latterly each attempt at dilatation had been followed by chill and fever, and the patient having read up on the subject, had naturally grown rather anxious regarding his condition. As the history showed intolerance of dilatation, and the case was from out of the city, I saw no choice in the matter and performed perineal section. Three days' preparation, in which that ideal urinary antiseptic, eucalyptus oil, figured largely, served to prevent chill and fever, the temperature after operation never rising above 99.5 F. The urethra was restored to a caliber of 38 French, meatotomy and division of the linear penile stricture at a depth of one and one-half inches being necessary. The subsequent course was uneventful, the patient getting about in ten days and leaving for home at the end of three weeks. Present advices, one year later, show him to be still in condition, 34 French passing readily.

Case 52: Deep Stricture with Secondary Pyelitis.—A bookkeeper, 25 years of age, had experienced an indefinite number of gonorrheas with, on several occasions, annoying complications, such as acute prostatitis and perineal abscess. On examination several perineal fistulæ were found. The penile urethra was moderately strictured, and a very tight contraction was found in the bulbo-membranous region. The urine was heavily loaded with pus and of strongly acid reaction. Considerable epithelium from the renal pelvis was found under the microscope. There was a history of lumbar pain and there was considerable tenderness in this region. The temperature was slightly raised. Pyelitis was evidently present. The conditions in this case were such that I recommended the immediate performance of perineal section, having the triple object in view of curing the stricture, closing the fistulæ and draining the bladder and renal pelves. As a fairly good sized guide could be readily introduced, the operation was short and performed without especial difficulty. The penile strictures were thoroughly cut, the urethra admitting 38 French. This case did nicely for twenty-four hours, when a chill developed, which was followed by several degrees of fever with anuria. A fatal result naturally occurred in this case, the patient dying of uremia on the seventh day.

Case 53: Irritable Penile and Deep Strictures with Enormous False Passage.—A gentleman, 50 years of age, suffered from bladder irritation for about fifteen years. He had been subjected to all kinds of treatment, and among them a perineal cystotomy by the lateral method had been performed on him on the supposition that he had a stone in the bladder. This operation was of no service whatever. There was a history of gonorrheal infection dating back some time before the period at which the serious trouble began. There was, however, a history of more or less vesical trouble throughout the patient's life.

Examination showed a moderate degree of hypospadias and three penile strictures of moderately large caliber. There was no difficulty in getting a bulb of moderate size into the bladder. The existence of a false passage was not suspected until the time of the operation. After dividing the anterior strictures to a caliber of 35 French, I proceeded to make a boutonnière upon the sound, and much to my surprise I found that instead of it being the urethra I was in a false passage, which readily admitted a 35 French. The urethra could be seen lying in the wound outside of the passage containing the instrument. I united the two passages by a free incision, divided some slight stricture bands at the bulbo-membranous junction and followed my usual plan of drainage. Convalescence was slow, the perineal wound having an obstinate tendency to remain open. I finally succeeded, however, in getting it closed. The urethra now readily takes a 32 French, but in spite of all treatment the bladder still remains a source of great trouble, urination being very frequent. The bladder is atonied from the long-continued obstruction, but has somewhat improved in this respect since the operation. The patient is extremely nervous, has comparatively little self-control, which leads me to think there may be a strong nervous element in the persistency of the bladder symptoms which, I am free to say, have not been benefited by the operation. The urine is approximately nor-

mal, and there seems to be but comparatively little tenderness of the vesical neck on instrumentation. The urine is voided with great frequency and the calls for urination are very imperative.

REMARKS.

It might be supposed that perineal section being so old and familiar an operation that special discussion of the subject is hardly necessary. Judging, however, of the numerous points that I have myself been compelled to learn or unlearn in the performance of the operation and in the after-treatment, there are certain practical features which are well worth our attention. One of the most important points in the operation is the preparation of the patient. In my own practice the main features of the preparatory treatment consist in the administration of eucalyptus and careful regulation of the diet, with rest in bed, where these measures are practicable.

With regard to eucalyptus, I feel that I can not say too much in praise of this drug. No matter what system of management I have tried, I have always had a certain proportion of cases in which chill or fever, or both, have occurred in my cases of genito-urinary operation, so that I have begun to believe that such conditions were beyond the control of the surgeon, the occurrence of a certain proportion of cases of this kind being one of the things which was to be taken for granted in genito-urinary practice. The difficulty of drainage, the always septic or microbial field of operation and the necessity for frequent physiologic use of the urethral canal and bladder have always been conditions which favored the occurrence of infection, no matter how careful the field of operation, instruments and hands of the surgeon may be prepared. When boric acid was introduced by my lamented friend, Professor Palmer, of Louisville, I gladly embraced the alleged opportunity of preventing genito-urinary infection through urinary antisepsis. My experience with boric acid, however, was disappointing. I finally, through the suggestion of a patient of mine who had discovered by experimentation upon himself the beneficial effects of the oil of eucalyptus, was induced to employ this drug for its prophylactic and curative effect in urinary fever. The results have not only been gratifying but somewhat surprising. The proportion of cases in which I now meet with urinary fever after genito-urinary operations is so much less than I have heretofore experienced that I feel in duty bound to give the credit to the oil of eucalyptus. I administer the drug in ten minim doses, in capsule, four times daily. I find that there are few patients who can not tolerate it, and most of them who are sensitive to the drug can take it very comfortably by drinking freely of milk at the time the drug is administered.

I will again reiterate my confidence in this method of treatment, and will state that I do not know from my own personal experience of any remedy which can be so greatly relied upon in by far the majority of cases as can the oil of eucalyptus in urinary fever, or where the occurrence of it is apprehended. I do not wish to be understood as recommending the operation of perineal section in every case of deep stricture. In many cases of apparently intractable deep stricture operation may be avoided and the subsequent treatment carried out successfully by gradual dilatation, provided sufficient patience be exhibited in instrumentation. In some cases the preparatory treatment of regulated diet, eucalyptus, saline diuretics, hot sitz baths, and leeches to the perineum and anus may remove these conditions, which, superadded to the actual organic contraction, offer insuperable obstacles to dilatation as long as they exist. There are certain cases, however, in which from my experience I have been led to believe that operation is an imperative necessity. Without entering into minutiæ at this point, these cases may be classified in general terms as—

1. Cases in which the patient comes from a distance and is unable to receive proper treatment by dilatation at the hands of the local physician or surgeon.
2. Cases in which the patient can only have dilatation practiced at irregular intervals on account of some peculiarity of his occupation.
3. Severe, or moderately severe, traumatic strictures.
4. Cases complicated by serious prostatic or bladder disease.
5. Cases in which obstinately recurring chill and fever occur with or without, and especially with, interference with the deep urethra by dilatation.
6. Cases complicated by renal disease.
7. Cases in which severe hemorrhage follows operative interference with the anterior urethra.
8. Cases of irritable and resilient stricture of large caliber at or about the bulbo-membranous junction, accompanied with symptoms of severe vesical irritation.
9. Cases of severe anterior stricture in which instruments can be introduced with great difficulty, if at all.

Safety, convenience, thoroughness and greater immunity from recurrence are best obtained by the radical operation in such cases.

With regard to the danger of sepsis, it is now admitted by every practical surgeon of experience in genito-urinary surgery that the keynote of safety is a perineo-vesical tube. It has been suggested that a boutonnière be established in every case of severe operation upon the anterior urethra, thus diverting the urine, which is always the greatest source of danger, severe hemorrhage being also thereby prevented. I do not admit the necessity of the boutonnière in such anterior urethral operations in by far the majority of cases, but in some instances there is no doubt in my mind of its advisability. Especially do I believe it advisable where bladder or prostatic complications worthy of attention exist, as we thereby not only render the anterior urethral operation much safer, but also in many instances bring about a cure of the deeper seated disease. It is to be remembered in this connection, however, that every case of anterior urethral disease in which vesical symptoms exist, is attended by deep-seated prostatic or vesical infection. Early in the case, especially, the vesical and prostatic symptoms may be due to reflex irritation. This is especially apt to exist in anterior strictures of large caliber even so far forward as the meatus. That perineal section is safer than repeated operations by sounding in many cases of deep urethral stricture, is so well understood by practical genito-urinary surgeons that it is hardly worthy of comment. Many cases are observed at the hands of different operators in which chill and fever occur before perineal section, even without attempts at dilatation, and especially with it, in which urinary fever is entirely absent after proper subsequent drainage. In cases in which strictures of the scrotal region of the anterior urethra exist as a

complication of deep stricture, perineal section enables us not only to effectually dispose of the posterior difficulty, but also to divide such bands as may be within reach of the finger anteriorly. The facility with which the finger may be introduced into the anterior portion of the urethra after a proper perineal section and the stricture bands in this region located and divided with a probe-pointed bistoury, or even with scissors, is noteworthy, and will be surprising to any surgeon who has not hitherto attempted this method of operating. I am free to say that digital exploration of strictures of the anterior urethra through the perineal wound has given me a much better understanding of the relation of strictures of large, or moderately large, caliber to urethral obstruction than I ever acquired in any other manner. Perineal section is certainly the ideal operation for resilient and elastic strictures of large caliber. I will not expatiate extensively on this point, as I have already presented my views in a paper before the Southern Surgical and Gynecological Association.[1] Such strictures will apparently dilate under the use of a sound, but by means of a rubber exploring bulb may be proven to still exist even after apparently wide dilatation. Behind such strictures a septic process continually persists, drainage is always imperfect, spasm of the deep urethra will be found to exist, and there are usually pronounced symptoms of prostatic and vesical irritation. I have latterly devised a broad divulsor for overstretching the membranous urethra and rupturing, or, if you please, forcibly dilating the thin stricture bands, a procedure which can not be accomplished by the ordinary sound. I have had thus far some excellent results, but I am not yet prepared to retract the assertion which I have already made, that in such cases a perineal urethrotomy is the ideal operation. The technique of drainage in perineal section is an important point. I have been using with great satisfaction a hard rubber drainage tube with a slight prostatic curve, or a slight deep urethral curve. This tube is grooved in such a manner that it can be used as a shirted canula, which enables me to pack sufficient iodoform gauze about it to prevent the possibility of hemorrhage after the operation. In cases in which I have made the anterior urethrotomy, in addition to the deep perineal operation, I place an additional drainage tube of soft rubber in the anterior urethra, allowing it to escape at the perineal wound. The deep drainage tube may be removed in 48 hours, if deemed advisable, or may be left in as long as is necessary to afford vesical drainage in cases in which the prostrate and bladder require it. It is my custom to attach a long piece of rubber tubing to the perineal tube which drains into a vessel of bichlorid solution at the side of the bed. An excellent plan is to have this drainage tube divided and coupled together with glass tubing a couple of inches of which are exposed at some accessible point. This enables the attendant to get a better idea of the amount of hemorrhage and to determine whether the tube is draining properly without removing the lower extremity of the rubber tube from the vessel of antiseptic solution.

In cases of severe anterior stricture in which operation is urgently necessary, if it is found impossible to dilate the canal sufficiently to introduce a urethrotome within the requisite length of time, which is necessarily limited in some cases, it is at once obvious that perineal section gives us much better control over the anterior stricture, and in case we desire to gain time the patient's retention is perfectly relieved. It will often be found practicable to introduce an instrument from the meatus under the guidance of the index finger into the perineal portion of the urethra after the canal is opened. In some instances, while an instrument can not be passed from before backward, it is quite an easy matter to pass it from behind forward. In cases in which the filiform can be introduced the string saw method of Abbe can be adapted to the urethra with great facility and usually with surprisingly good results. This method I believe to be far superior to prolonged, often futile, attempts at instrumentation in the ordinary manner. In cases of deep stricture, complicated by perineal fistulæ, the indications for perineal section are usually peremptory. There are exceptional instances in which a small fistula in the perineum may be closed permanently under dilatation, or after division of strictures in the anterior portion of the canal; but in by far the larger proportion of cases a perineal operation is necessary. Care should be taken to dissect out, as far as possible, all fistulous tracts. Healing is usually very rapid; indeed, it is often surprisingly so, considering the extent of the incisions necessary to lay open or remove the fistulous tract. It will sometimes occur that cicatricial bands of the urethra will escape division at the primary operation. It is therefore essential to examine the perineal wound carefully from time to time. Should such bands be found, they may be divided at any time prior to the closure of the perineal opening. In cases in which sounding, after the operation, is performed with considerable difficulty, or in which the operation of sounding, at first easy, becomes difficult, the surgeon is justified in reopening the perineal wound and seeking for such obstructive bands as have escaped the first operation. If the operation be thoroughly performed in the first place, there should be little or no difficulty in the subsequent introduction of sounds. It has been my experience that operators rarely incise freely enough in the performance of perineal section, many, indeed, content themselves by opening the floor of the urethra, relying on the single division of the stricture below for a cure. Many are satisfied with a result which permits the introduction of a 25 French sound or less; under such circumstances the recurrence of the stricture is not to be wondered at. I believe that the case is exceptional in which, at least, 30 French may not be introduced with perfect ease after a proper perineal section. The anterior urethra, if diseased, should be restored to its normal caliber. In my own experience, it is rather infrequent that the urethra will not admit a 35 French after thorough division of the perineal stricture. It is quite generally to be taken for granted that the exudate in strictures is entirely without the canal proper of the urethra. I find, however, cases in which the urethral walls are seemingly fused together, particularly upon the roof of the canal, and I have not infrequently made a dry dissection of a urethra with the handle of a scalpel, gradually separating the folds of mucous membrane which had apparently become fused together by lymph and partially organized. I am well aware that this is a pathologic heresy, yet I have nevertheless demonstrated this condition to medical audiences on numerous occasions. I feel that I can not insist too strongly upon the free division of a stricture upon the roof of the canal. Complete division of the corpus

[1] Trans. Southern Surgical and Gynecological Association, 1894.

spongiosum is often necessary to attain this result. It will sometimes be found, even in very tight perineal strictures, that the pathologic changes constituting the stricture are limited almost entirely to the roof of the canal, the floor being partially normal. When, as occasionally happens, the urethra is practically fused together at some point, there being at the same time a practically normal condition of the floor of the urethra and marked thickening of the roof of the canal just in front of the point of fusion, care should be taken lest the urethra beyond the stricture be missed altogether.

A very important point in the after treatment of perineal section is the frequency of dilatation. I am satisfied the majority of surgeons dilate too frequently. I believe that it is perfectly safe to allow the average case to go without instrumentation for at least a week after operation. In my own practice it is rather exceptional that a sound is passed before the fourth day. While no arbitrary rule can be followed regarding the subsequent introduction of sounds, I believe that it is rarely necessary to pass instruments oftener than every three days.

In cases of fistulæ following perineal section where a plastic operation is necessary, Zymanowski's method has proven most satisfactory in my hands. In cases in which the perineal wound is slow in healing, the shotted or quilted suture is often effectual.

SOCIETY PROCEEDINGS.

Chicago Pathological Society.

Regular Meeting Jan. 13, 1896.

The President, Dr. Weller Van Hook in the Chair.

Dr. Emil Ries read a paper entitled "Various Membranes Discharged from the Uterus," and illustrated the same by means of microscopic specimens. (See p. 552.)

Dr. L. Hektoen presented gross specimens of the brain and the spinal cord hardened in various ways, such as alcohol, formalin and Müller's fluid. He had found, however, that a mixture of ninety-five parts of Müller's fluid and five parts of commercial formalin was an extremely useful combination for the preparation of gross brain specimens, the tissue becoming rapidly firm and elastic, not brittle as in Müller fluid alone, and the markings of the cut surface remaining very distinct. The hardening process is very rapid in this mixture; in three to four weeks, or even less, a brain will be in very favorable condition for division into transverse sections; the fluid should be changed as often as it becomes turbid or altered in its original color. The specimens can be permanently preserved in alcohol which will wash away the excess of Müller's fluid.

As shown by the microscopic specimens presented, human and animal spinal cords prepared in this mixture can be stained with Weigert's method as early as after one week. The specimens that have remained two weeks or so show perhaps a deeper staining. The exact behavior of brain tissue prepared in this mixture has not yet been accurately determined.

The Müller's fluid and formalin mixture is also an excellent fixative and hardening agent for ordinary tissues that are to be examined histologically. It acts very much more rapidly than Müller's fluid and the blood is especially well preserved.

A mixture of Müller's fluid ninety-five parts and formalin five parts is consequently warmly recommended for the preparation of gross wet brain and cord specimens on account of rapidity of action, on account of the firmness and elasticity of the specimen, and the definite outline of the cut surface. It is also recommended in those instances where it is desirable to obtain specimens of spinal cord suitable for Weigert's differential stain within a shorter time than is possible when Müller's fluid is used alone. Finally the addition of formalin to Müller's fluid will be found to hasten, intensify and improve the action of the latter in these cases in which Müller's fluid is ordinarily used for histologic purposes.

Presentation of Specimens and Discussions.

Dr. F. Henrotin presented a specimen of

Extra-uterine Pregnancy,

apparently due to rupture through the fundus of the uterus at an early time. The specimen had been removed by laparotomy which disclosed the fetus attached to the lower part of descending colon producing obstruction. The fundus of the uterus showed a large, irregular tear, through which the fetus and part of the placenta seemed to have passed. The tubes and ovaries were normal.

Dr. D. D. Bishop presented the following specimens:

Tuberculous Pericarditis.

This specimen is an example of chronic adhesive tuberculous pericarditis obtained through the courtesy of Dr. L. J. Mitchell. The patient was a negro, aged 23. The heart and adherent pericardium weighed 650 grams. The adjacent peribronchial lymph glands were converted into large caseous masses, but careful examination of the other organs and tissues revealed no other tuberculous foci. The two surfaces of the pericardium are adherent; along the line of union numerous areas of caseation are seen, and upon the surface are many small nodules. There is some infiltration into the myocardium, especially near the base of the heart. Microscopic examination shows caseation, round cell infiltration with epithelioid cells, but giant cells were not found. A limited number of tubercle bacilli were also found. The specimen is of considerable interest because of the fact that tuberculosis was not present in any other organs except in the peribronchial lymph glands. Tuberculous pericarditis of the chronic variety has been described, and all of the authors agree that it is an uncommon condition, unless associated with general tuberculosis or pulmonary phthisis. It occurs now and then in association with tuberculosis of the peribronchial lymph glands, or tuberculous abscess in the anterior mediastinum, or perhaps tuberculosis of the sternum or some of the adjacent ribs. If tuberculous pericarditis exists as a primary condition without extension from adjacent structures, it must be very rare indeed.

Fibromyoma of the Stomach.

The second specimen I wish to call attention to is presented because of its rarity. It is a small fibromyoma discovered in the wall of the stomach. The patient was a negro and advanced in years. The tumor apparently springs from the muscular coat proper. As we examine it macroscopically it seems to be covered by mucous membrane. It was firm, and whitish bands were seen passing through it, which suggested a fibroid tumor of some sort. In the fresh condition it measured one inch in length and a half inch in breadth, projecting a half inch above the level of the serous membrane and one-sixteenth of an inch above the level of the mucous membrane. The outline was oval and the margins fairly abrupt and circumscribed. There was no necrosis upon the surface.

Sections of the tumor show the structure to be one of more or less connective tissue fibers and cells having broad staff-like nuclei, which we recognize as muscle cells, entitling the tumor to the name of fibromyoma.

Adenocarcinoma of the Colon.

In this bottle is a small tumor about the size of a hickory nut, which projects into the interior of the intestine and is pedunculated. It appears papillomatous upon its surface, but when cut it is quite firm. It was situated about the middle portion of the descending colon some little distance above the sigmoid flexure, and was found in a patient 84 years of age.

Microscopic sections of the tumor show it to be composed largely of well developed tubular glands lined with columnar epithelium and fairly well formed fibrous framework. In places the tubular glands are quite atypical, the structure not being complete in some parts, and in others the outline of the gland being irregular, suggesting to us the appearance we often see in columnar-celled carcinoma of the intestinal tract.

Dr. E. R. Le Count presented and discussed the following:

Pancreatitis with Disseminated Fat Necrosis.

The first ones are specimens from a case of so-called fat necrosis which occurred in the practice of Dr. W. C. Williams. Dr. Williams has already reported the case to the Chicago Med-

ical Society, and shown the specimens there. They are deemed of sufficient rarity to warrant a second presentation. The specimens were sent to the laboratory of Rush Medical College by Dr. A. D. Bevan, who saw the case in consultation. The clinical history was briefly as follows: A woman, age 40, had been suffering from apparent slight indigestion for a week or ten days, previous to Sept. 2, 1895. On that date, following a light lunch, she experienced violent abdominal pain, followed by vomiting of a brownish bile-containing fluid. Vomiting at frequent intervals, severe frontal headache, and paroxysmal pain continued during the night and following morning. Severe pain was experienced on attempting to sit up. Examination on the second day revealed weak pulse, slightly subnormal temperature, and as regards the abdominal region, no localized swelling, no ascites, no abnormal dullness, but deep-seated tenderness. Death, preceded by a slowly developing weak heart action, which failed to respond to stimulation of any kind, and by coma and cyanosis, took place on the third day. At the autopsy the changes found were limited to the abdominal cavity and consisted mainly in the presence in the subperitoneal fat of multiple, small (.5 to 1 or 2 c. in dia.), grayish, granular, slightly raised areas, with more or less serrated margins and irregular circular outlines. The peritoneum over such areas was lessened in luster, but was not the seat of any fibrinous exudate. These areas were distributed throughout the whole abdominal cavity wherever subperitoneal fat existed; in the omentum, mesentery, pancreatic and para-pancreatic fat, etc. Slight hemorrhage into the post-pancreatic tissues and posterior portions of the pancreas was found. The mucous membrane of the small intestines was a diffuse red color and slightly swollen. The kidneys were soft and opaque. The epi- and peri-cardium appeared normal; the myo-cardium flabby; other organs normal.

Bacteriologic examination: The colon bacillus was isolated from the heart muscle, kidneys, pancreas, and the gray areas in the mesentery.

Histologic examination: The examination of fresh sections, sections hardened in alcohol and Müller's fluid and fixed in Flemming's solution, all showed the opaque areas in the subperitoneal fat to be made up of an amorphous, granular, non-staining substance in which were many needle-shaped crystals radiating from a common center. The osmic acid reagent did not discolor these areas as it did the surrounding fat. No fat cells were found in the opaque areas, nor were they surrounded by any zone of cell infiltration. The pancreas showed some areas of infiltration with blood, an increase of interacinous connective tissue, a marked absence of nuclear staining reactions, and a round cell infiltration only in the head near the duodenum. Marked round cell infiltration of the mucous membrane of the duodenum was present and, to a less extent, in other parts of the small intestines. The epithelial lining of the kidney tubules was swollen and the cells granular.

The résumé of the present knowledge concerning disseminated fat necrosis by Thayer (*Am. Jour. of the Med. Sciences*, October, 1895) and an editorial in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Nov. 2, 1895, on the same subject, are of such recent date as to render any allusion to literature superfluous. It suffices to say that the opinion of Langerhaus, that the opaque areas were produced by a combination of fatty acids, freed by a fat-splitting ferment of the pancreatic secretion, with lime salts, was confirmed by Barker of the Pathologic Laboratory of the Johns Hopkins Hospital, who resolved the crystals found in such areas back to fat globules by the use of glacial acetic acid, and demonstrated the presence of lime salts in the areas with oxalic acid.

COLLOID CARCINOMA OF STOMACH WITH EXTENSIVE PERITONEAL INVASION.

The second case from which it is desired to show specimens occurred as a coroner's case. The autopsy was done by Dr. L. J. Mitchell, who sent the specimens to the laboratory of Rush Medical College for examination, and to whose courtesy I am obliged for the privilege of presenting them.

The clinical history is unknown. The anatomic diagnosis made at the autopsy is as follows: Colloid carcinoma of cardiac end of stomach, of omentum, of peritoneum, with sero-hemorrhagic effusion and multiple free carcinomatous colloid masses in the peritoneal cavity. Adhesive pericarditis, hypertrophy of heart, fusiform aneurysm of ascending aortic arch, with rupture and hemorrhage into pericardial adhesions, cyanotic atrophy of liver, chronic nephritis, left inguinal hernial sac, single left testis, hypoplasia of right seminal vesicle, retention cyst of left epididymis. The chief interest centers in this large colloid carcinoma of the stomach and its regional invasions.

The stomach shows at the pylorus an orange-sized nodular mass surrounding the pyloric orifice. There are no ulcers of the mucosa, which in the fresh condition was pinkish and not thickened.

The omentum is deformed, drawn up into a semilunar, grayish-white mass of firm consistence, which is 26 c. wide and 3 c. thick.

The peritoneal cavity contained about nine liters of a reddish fluid with hundreds of small globular masses, jellylike and varying in size from pin head to bean. The peritoneal layers were everywhere covered with small and large whitish nodular masses, some of which were sessile, others pedunculated. Section of these showed them to contain clear or yellowish jellylike material. In the pelvis these masses were larger. The spleen and liver were adherent to the diaphragm. Microscopic examination of the free bodies in the peritoneal cavity showed them to be made up entirely of colloid material. The interesting features in these specimens are the size of the tumor, the metastatic peritoneal secondary tumor nodules, the free colloid masses in the peritoneal cavity, and the fact that death resulted from rupture of an aneurysm of the aortic arch into the pericardium.

DR. F. TICE presented a specimen of

PULMONARY STENOSIS.

This specimen of a heart is not presented because of its extraordinary rarity, but from the fact that clinically an uncommon diagnosis was made which was substantiated by the post-mortem. The patient from whom the specimen was obtained entered Cook County Hospital Dec. 9, 1895. He was 23 years of age, and gave a history of having been sick for three months, the symptoms being those of typical pulmonary phthisis. The symptoms did not in any way refer to cardiac trouble. Physical examination of the lungs revealed typical bilateral pulmonary phthisis. The heart was considerably enlarged. On auscultation a murmur could be heard over the aortic valves, not very distinct, in the second right intercostal space. A more decided systolic murmur could be heard to the left in the second intercostal space, which was transmitted a slight distance upward toward the left shoulder. The significance of the murmur was not fully appreciated at first. To Professor Babcock is due the credit of having made a diagnosis of either pulmonary stenosis or aortic aneurism. The case on December 12 left the hospital, and no more was heard of him until the 7th of this month, at which time it was learned that his body was at an undertaker's place, where Dr. Richter and myself had the privilege of making an autopsy. The post-mortem findings of the lungs were those of adherent pleuritis and ulcerative pulmonary phthisis; there was fatty liver, and slight changes in the kidneys. Upon opening the heart the aortic and mitral valves were found to be practically normal, the tricuspids in a similar condition, if anything slightly thickened. On cutting the pulmonary artery transversely and looking down into its opening, we saw at the bottom a process which resembled very much as though a nipple had been forced up into the bottom with a slight opening at its apex. The cusps are entirely adherent along their borders, forming one continuous mass. The right heart is appreciably enlarged. The post-mortem diagnosis was pulmonary stenosis. There was also found upon closer examination a patulous foramen ovale, which would admit one large-sized match and possibly two could have been passed.

An interesting question to consider in connection with this specimen is: Was the pulmonary lesion a congenital one? We are informed by Osler that the condition of pulmonary stenosis is exceedingly rare, and that in the majority of cases it is congenital. A pathologic condition of the pulmonary valves (stenosis) is almost always associated with a patulous foramen ovale, which we found in this case, substantiating to some extent the idea that it was congenital. If we conclude that it was not congenital but acquired, we are then confronted with the relation of the pulmonary lesion to the pulmonary phthisis. We are taught that in mitral lesions in which we get congestion of the lungs, that tuberculosis is less frequent, and that in some cases we have a reparative process and find upon post-mortem examination ancient tuberculosis, on the same principle that an osseous tuberculosis of an extremity can be benefited in some cases by circular constriction above the lesion. In this case we naturally had a reverse condition, that of pulmonary stenosis, and a reduced amount of blood in the lesser circulation, this producing a *locus minoris resistentiæ*, into which the tubercle bacilli found an easy invasion.

DR. HEKTOEN—The foramen ovale is so frequently patent to the degree shown on this specimen, even in adults, that I do not consider its condition in this particular specimen as favoring either one or the other of the two interpretations advanced in regard to the genesis of the pulmonary stenosis.

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SATURDAY, MARCH 21, 1896.

THE THERAPEUTICS OF SUGGESTION AND HYPNOTISM.

The Boston *Medical and Surgical Journal*, in a recent issue, when commenting on the opinion which this JOURNAL has editorially shared, that hypnotism has largely had its day in medicine, remarks: "It is a curious phenomenon that physicians of acknowledged attainments and liberality should stand aloof from a subject of vital scientific importance and hail its so-called decline with apparent satisfaction." It goes on to say, in effect, that while in the mind of unprejudiced observers the objections to hypnotism would probably take rank with those to vivisection, it does not intend to take up its defense, but claims for it the credit of having established a principle of mental treatment on rational grounds, and it considers the movement which began with the active study of hypnotic phenomena, "one of the most significant in the history of modern medical advance," and with this it laments that the average physician still remains apathetic and blind to the mental therapeutic methods that hypnotism points out, and fails to clearly recognize as he ought the interdependence of the physical and the mental in the human organization in health and especially in disease.

The scientific study of hypnotism has undoubtedly had a beneficial influence in making us better acquainted with certain phases of mental action, and has thrown light on some pathologic conditions. So far scientific medicine has no quarrel with it, but accepts all the facts it can demonstrate and willingly admits its usefulness within legitimate limits. It has certainly enlightened us as to the nature and phenomena of hysteria and has furnished us with what is, on the whole, the most rational and readily comprehensible conception of that condition. It has even had a limited utility in its therapeutics, possibly on the homeopathic principle, if that can be so far admitted, and whatever good effects have followed its employment in other disorders, can probably be attributed to the hysterical element that exists, either latent or revealed, in so many morbid conditions. It is not necessary for this reason, however, to acknowledge any general therapeutic value in hypnotism, or any special benefit from its use in even a very small proportion of human diseases. The medical profession is coming to recognize this fact and to appreciate the possible dangers of hypnotism, and therefore the opinion previously expressed in the JOURNAL is, we believe, becoming more and more justified, viz., that the belief in hypnotism as a therapeutic agency is steadily on the wane. We are going through, or perhaps one should say under the circumstances, we have gone through, a phase of medical progress which repeats the history of fifty years back, but with this difference, that we have now utilized in a physiologico-psychologic point of view, the data which in the former period were only observed and correctly estimated in their therapeutic relations. It would be strange indeed if in the cycle of half a century we had made no progress in this direction.

The claim that hypnotism has led to a better understanding of mental therapeutics, or rather the therapeutics of suggestion, is a little extreme when we consider that this has been the special field of impostors in all time and that its efficacy has been recognized by scientific medical men, who have never been backward in recognizing it in a legitimate way. There is no fuller statement of the possibilities in this direction than that given in the classic work of Dr. Hack Tuke on the influence of the mind upon the body. The advances in cerebral physiology and the comparatively modern science of experimental psychology have had a far greater part in giving us a better understanding of these processes and conditions, and the value of hypnotism in this special direction must be estimated properly only by its utility as an adjunct to these. It can be admitted without question that its study has given us some light on processes that have hitherto been unexplained, and that in this way it has also thrown some side light on therapeutic methods. As a therapeutic method itself its value is, with all due respect to the eminent and worthy physicians who still utilize it, at the best very limited, and in most cases, we believe, more than questionable. To requote a passage cited with approval by the Boston *Medical and Surgical Journal* from Dr. Clouston: "We do not need to hypnotize a patient to show that the mental centers in the cortex have the power of directly influencing physiologic function and tissue nutrition." Suggestion is far older in medicine than hypnotism, and the requirement of the latter for its therapeutic

use is a little too like the practice of the healer who threw all his patients into fits because he was "death on fits." It is the induction of a pathologic condition, a disturbance of brain functioning that is occasionally, at least, too dangerously near hysteria and insanity to be safely handled even by a skilled specialist, and when it is harmless its effects are likely to be evanescent and useless.

There may have been a certain benefit in hypnotism in that it has called attention to the mental element in disease, and has made it more respectable to make use of suggestions in its cure, but this benefit would be much more than annulled were it the practice generally or even largely to hypnotize the victims of diseases that are amenable to suggestive therapeutics. The physician can far better be a psychologist than a hypnotizer; he can often affectively call into action the will and the imagination of his patients without any risk of aggravating or intensifying already existing pathologic tendencies in cerebral functioning to little real profit.

It is not intended in the forgoing remarks to convey the impression that hypnotism is essentially disreputable; it has unquestionably at the present still a certain standing as a method of cure, which is made respectable by the high character and reputation of a few of those who still use it extensively in their practice. But it is believed that these are not gaining followers to any great extent among the regular practitioners of medicine and that the profession as a whole view it with less favor than seemed once to be the case. The "thoroughly disreputable therapeutics of hypnotism" was an expression originally applied in this JOURNAL to the practice of certain German specialists of inducing hypnotized patients to commit fornication as a therapeutic measure in the treatment of some forms of aberration of the sexual impulse. It seems necessary to speak plainly in explaining this, but whatever results may be claimed for the practice, no amount of casuistry can make it other than disreputable.

ASHAMED OF WHAT THEY SHOULD BE PROUDEST OF.

The Transactions of the American Ophthalmologic Society, containing the reports of its 1895 meeting, prints thirty-five papers contributed by members of the society. Of these thirty-five papers by Americans, be it noted, but two relate to refraction, and two to anomalies of muscle balance. Concerning the latter, one considers only an old cutting operation, and the second contends that strychnin has a peculiar and selective tonic action upon the internal rectus muscle! All of which, it strikes us, is irresistibly funny.

Ophthalmology has been long vaunted as the model of the specialties of medicine, the first branch of genuine medical science to arise, and serve as an example for all the rest of us. If so, we can but repeat the homely old saw, "Soon ripe, soon rotten." For surely the work of the representative American society in this department of medicine is the veriest travesty of medical progress—almost, one might add, a caricature of conservatism. Is the vein, indeed, thoroughly worked out? Does the ore no longer yield truth in "paying" quantities? From the report, yes; but what are the facts?

There are several most inviting "claims" that seem to have been utterly ignored by our "representative" body. Of these let us choose but two.

If an American visits a European oculist, he will be first shown, or there will first be talked about, operations, and especially cataract operations. When this subject becomes stale, as it is very prone to become, there may arise the question of acute or chronic inflammatory diseases, and conversation will again soon grow empty and unprofitable. It then may occur to the polite host to quiz and chaff the poor American about our "fads," and there will be enacted the delightful comedy wherein the courtesy of each will seek to avoid the blunt expression of the opposing convictions of each. The American will catch the gleam of pitying contempt in his host's eye, the amused disgust at the superficial hobby-rider as regards "American eye-strain," whilst he himself will endeavor to be restrained in his retort of unprogressive conservatism upon the part, *e. g.*, of the Britisher. If too over-bold the guest will suggest the possibility of stopping the ultimate *causes* of the blepharitis, trachoma, cataract and numerous other ocular ills, with the *effects* of which the conservative brother is always concerned, and then the challenge is answered with an ill-concealed slur at American crankism and quackery—until finally, when the tension becomes too dangerous, the subject is dropped and the two "scientists" agree to leave untouched subjects over which no harmony can possibly be reached.

A man always wishes to stand well with his fellows, especially with those of his own specialty, and so the American returns to his native land, writes articles upon sarcoma, cataract, entropion, congenital coloboma, trachoma, and all the rest of the threadbare topics which fashion has prescribed as "safe." He avoids as he would infection the "dangerous" subjects, those which American ranters have sometimes indeed made ridiculous, and the consideration of which would class him as "American" by his reverenced, very proper, foreign distributor of distinction.

But it should not be forgotten that whatever his published papers and theories may advertise him as interested in, he returns to daily *practice*, and for at least four-fifths of his time, he proceeds to treat his patients by methods and for diseases that would make the typical English ophthalmologist turn in his yet unreached or recent grave with shudder and disdain.

All day long and every hour he refracts eyes, prescribes glasses, and orders measures for correction of muscular anomalies, about which he says nothing in his dignified society essays, reprints of which he sends to his foreign confrère, who thereupon takes him into the fellowship of inner brotherhood. Both are happy in turning their backs on the plebeian riders of eye-strain hobby horses, reflex neurosis cranks and muscle-gymnastic extremists. Safely among the select saved, they smile gravely and piteously upon the unfortunate crew of the faddists. They are as careful to practice faddism in the daily routine of office work as they are to ignore it in public and in print.

And yet it is precisely in these two things, the diagnosis and treatment of eye-strain and of muscular function, that the American oculist has outstripped the old world, and is building a body of solid truth that shall more than neutralize and overbalance unprogressive inertia and the shame of our aristocratic pretension of indifference. When the progressivists one day win and make the whole world acknowledge the tremendous importance of eye-strain in both local and systemic troubles, then the over-careful conservatives and "layers-low" will come out of their hiding places and say, "Oh yes, we told you so twenty years ago: this is all an old story to us!" Perhaps some braver fighter will be heard muttering: "But you were cowardly when you should have been brave, leaving others less careful of fashion and dainty reputation to do the fighting, whilst both then and now you profit by their labors."

And what patriotism and Americanism is this! Whilst the political braggarts are making the real articles disgusting, we in medicine choose to deny our real merit and originality, drift with the easy tide of hackneyed and respectable commonplace instead of emphasizing the very things that we should be proud of. There are to-day hundreds of American ophthalmic surgeons who know beyond all possible peradventure that eye-strain as they diagnose it and treat it is of exactly that transcendent importance denied by the over-sea prejudice, both in public and private, and hypocritically denied by a few Americans who value toadyism more than truth.

For verily there are a thousand unsolved problems in ophthalmology into the mysteries of which progressive American oculists are only commencing to penetrate; and they find inexhaustible riches at every step. Our present writing is to encourage these earnest workers to plunge deeply and earnestly into these rich veins, undismayed by the "cold water" the aristocratic time-servers may pour upon them from the satisfied *laissez faire* of successful practice and carefulness of clean skirts. It is seemingly true that ophthalmology is the most unprogressive and least perfect of the medical specialties, but the remedy of the disgrace lies in the American intelligence and bravery that are independently solving the many mysteries that surround errors of refraction and of muscle balance.

THE TESTIMONY OF PHYSICIANS IN COURTS OF JUSTICE IN THE DISTRICT OF COLUMBIA.

There is now pending in both houses of Congress a bill to protect the citizens of the District of Columbia from the compulsory disclosure of their confidential communications to physicians. It is modeled after the law now in force in the State of New York, and substantially the same as the statutes in twenty States and one Territory in the country, comprising nearly one-third of the population of the United States. This bill is intended to extend to the citizen the liberty of privileged communications to physician similar to that guaranteed to attorneys under the common law. The time has come when the medical profession of this country should assert itself with all the force and power which should attach to the most numerous, most highly educated and powerful body of persons in this country engaged in a beneficent, intellectual and scientific pursuit. To this end it should unite in one cohesive effort to secure the enactment of laws in all the States that will establish the liberty of such privileged communications and protect the citizen in the enjoyment of a private and natural right, made necessary and sacred by the ordinary considerations of self-protection from legal outrage upon personal character, social standing and physical and moral conditions which do not concern the public at large. It is an established principle of law that a person can not be compelled to directly criminate himself by confession in open court, and common justice demands that he should be protected by statute law from indirect crimination of himself by the compulsory disclosure of his confidential communications to his physician. Public opinion and medical ethics everywhere maintain the inviolability of such communications. The Code Napoleon not only guarantees such protection to the citizens of France, but holds the physician, who may dare to disclose such confidences, amenable to punishment.

Twenty-five years ago the AMERICAN MEDICAL ASSOCIATION adopted a resolution recommending the State medical societies to secure the enactment of laws to regulate the practice of medicine. Now, there is but one State, New Hampshire, and the District of Columbia without such laws. The profession of the District of Columbia is now struggling with Congress to secure the passage of a bill to regulate the practice of medicine, and also a law to establish the inviolability of the relations between patient and physician. It appeals to the profession throughout the country for such aid as each member can contribute. If every doctor in this country who may read this leader will write immediately to his Senator and Represen-

tative these bills will be passed without delay. The power of the profession, when united, is clearly shown in the enactment of medical practice laws in forty-seven States and Territories, which have been accomplished by the unaided efforts of the profession in the States and Territories, in some cases against the prejudices of many citizens, and in every case in defiance of the commercial interests of charlatans and impostors. Neither of these obstacles obstructs the enactment of State laws to extend the liberty of privileged communications to physicians, and public sentiment everywhere is in support of such laws. It remains only for the profession to unite and make the demand. Then why not proceed at once?

THE VITAL STATISTICS OF ENGLAND AND WALES.

The Fifty-seventh Annual Report of the Registrar-General of England is remarkable, not so much in that it shows the year 1894 to have had the lowest death rate hitherto recorded, but because it shows this lowest death rate to be so much smaller than those of recent years as to suggest a modification of our ideas concerning what constitutes a good annual mortality rate. The death rate of England and Wales, with a population of over thirty million was only 16.6 per thousand living. The nearest approaches to so low a rate were 18.9 in the year 1881, 18.1 in 1888, and 18.2 in 1889. In these three years only, prior to 1894, was the death rate of England and Wales less than 19 per thousand. The average rate of the ten years prior to 1894 was 19.2. Since 1880 the death rate has been less than 20, except in 1891 when it was 20.2. Prior to 1880 it was never less than 20. A comparison of the death rates of various countries in recent years shows that as in England and Wales, so also in Scotland, Denmark, the German Empire, Russia, the Netherlands and Belgium, the rate in 1894 was not only much lower than 1893, but was either the lowest on record or the lowest in any recent year. On the other hand, the death rate in Ireland, Norway and Switzerland showed a slight advance on the respective rates in the previous year. But to return to England, the small county of Rutlandshire, with a population of somewhat over 22,000, had the lowest rate, 12.5; but Middlesex which was recorded by the last census as having a population of 575,000 had a death rate of only 13.3. The highest rates were reported from Lancashire, 18.6, in a population of four million, and from Durham, 18.0, in a population of over one million. The average city rate was 17.1, while that of the rural districts was 15.6. The rate among males was 17.6; among females 15.7. Out of equal numbers living there were 1121 deaths of males to every 1000 deaths of females. The death rate of male children under five years of age was 55.0; of female children 46.4. Whooping cough was the most fatal of the specific infections; it caused 411 deaths per million of the population. The mortality caused by smallpox was 27 per million; by scarlet fever 167; by diphtheria 292; by measles 391; by influenza 220; by cancer 713; by consumption 1385. Violence was responsible for 537 deaths per million people; suicide for 91. The rates for cancer and suicide are the highest, and that for consumption the lowest on record in England and Wales for these causes. Hydrophobia was the certified cause of 13 deaths during the year.

The birth rate of 1894, as well as the death rate was the lowest on record, 29.6 per thousand persons living. The highest birth rate on the record of the Registrar-General is 36.3 in 1874. Among the births of 1894 male were proportioned to female children as 1037 is to 1000; and 43 of every thousand births, or 1.3 per thousand of the population were illegitimate.

The marriage rate of the year corresponded with 15.1 persons married in every thousand of the people. This is considered a low rate, but it is an improvement on that of the preceding year, 14.7, and on the average rate of the previous ten years, 14.9. The highest rate on record is 17.9 in 1853; the lowest 14.2 in 1886. If Tennyson was right in his statement that in the spring "the young man's fancy lightly turns to thoughts of love," it takes the young man several months to turn his thoughts into action, for the quarter of the year ending December 31 has the largest number of marriages all through the years from 1838 to 1894. There are 26,595 churches or chapels in England and Wales in which marriages may be solemnized, and 15,166 of these belong to the Established Church; only 1045 are Roman Catholic, and only 318 Presbyterian. It is worthy of note that the number of marriages solemnized in accordance with the rites of the Church of England has been diminishing slowly but steadily since 1845. The cause of this is not apparent from these statistics, but the cold facts recorded say that in the year mentioned of every thousand marriages 901 were in accordance with the ritual of the Established Church, and that this was the only year in which as many as 90 per cent. were so solemnized. The number decreased year by year, until 1861 it dropped below 80 per cent. 798 per thousand. It continued over 70 per cent. until 1889, when it dropped to 698 per thousand. Next year it rallied to 701, but immediately fell again reaching 686 in 1894. In every thousand of the marriages of 1894 there were concerned on the one side 889 bachelors and 111 widowers, and on the other 923 spinsters and 77 widows. The men in 46 of every thousand cases, and the women in 54, and both the man and woman in 14 cases, signed the necessary legal papers by mark. The progress of education in England is shown definitely by the records of these signatures. In 1847 in every thousand marriages 312 men, 455 women, and in 240 of the cases both the man and the woman,

signed the papers with a cross. The total number of persons married in 1894 who were described in the marriage register as having been previously divorced was 232, of whom 116 were men; and as many women. Of the men 86 married spinsters, 26 widows, and 4 divorced women. Of the women, 92 married bachelors, 20 widowers, and 4 divorced men. The mean age of the bachelors who were married during 1894 in England and Wales was 26.54 years; of the spinsters 24.90 years; of the widowers who remarried 44.13 years; of the widows 40.49. Many other facts might be gleaned from the Registrar-General's columns of figures, but we have cited enough to make us regret that we can give no such information concerning the United States of America. We pride ourselves on being a go-ahead nation, up to date in everything, but in this matter of vital statistics we are half a century behind the age. Good work is done by many of our cities and some of our States, but we have no national statistics. We want a Department of Health.

IMPROVED RECIPROCAL RELATIONS OF PHYSICIANS AND PHARMACISTS.

At the next meeting of the Medical Society of New Jersey, to be held at Asbury Park, on the fourth Tuesday in June, 1896, an important proposition, as indicated in our caption, will be discussed. It foreshadows the adoption of an *entente cordiale* fostering a spirit of harmony among professional men. The points involved as regards the physician are the avoidance of discrimination in favor of one pharmacist to the detriment of others, except for dishonesty or ignorance, the refusal of gratuities, the monopoly of secret formulas, and encroachments upon the superior technical skill of the trained pharmacist.

On the part of the pharmacist, his duties forbid the recommendation of drugs for specific purposes, as by advertisement or otherwise, the diagnosis of disease without proper medical training, and the distribution of printed matter to physicians setting forth therapeutic indications for the use of drugs or medicinal preparations.

As regards the duties of the physician and pharmacist to the public, both should discourage the nostrum-maker, the pseudo-scientific pharmacist, the sectarian physician and the mere drug vendor. Both professions should help to limit the multiplication of manufactured proprietary compounds, rely more upon the pharmacopeias, and set their faces against temptations to form baneful drug-habits. Both should strive to "complete the circle of therapeutics by supplying the demands of experimental and clinical teaching with eligible and trustworthy preparations." Each profession will observe the rights of each, and conduct themselves according to the silver rule, *Ne sutor ultra crepidam.*

CORRESPONDENCE.

A Question of Priority in Abortive Treatment of Typhoid Fever.

WASHINGTON, D. C., March 12, 1896.

To the Editor:—As reported in your paper, at the meeting of the Mississippi Valley Medical Association at Hot Springs, Nov. 21, 1894, Dr. Woodbridge expounded his so-called abortive treatment of typhoid fever, giving three polypharmic formulæ with instruction for their use, and claimed he had had twelve years experience with this treatment.

The formulæ mentioned contain guaiacol carbonate to the extent of 33⅓ per cent. This claim of twelve years experience with guaiacol carbonate is at variance with a statement by the manufacturers of the drug, as follows:

"In the *Allgemeine Medicinische Central-Zeitung*, 1893, Nos. 45 and 46, Dr. Fritz Hoelscher gives an interesting account of his experiences with guaiacol carbonate as an intestinal antiseptic, more especially in typhoid fever." From this it would seem, so far as the manufacturers knew, the drug had not been used in typhoid fever prior to 1893. The so-called Woodbridge treatment has been used in a number of cases under my observation with excellent results, and I believe many of the claims regarding amelioration of symptoms are well founded. I have, however, observed the same excellent results when guaiacol carbonate has been used alone or in conjunction with mild laxatives or enemata when the latter were indicated. I believe that guaiacol carbonate should be credited with the good results thus obtained, as the other ingredients of the formula mentioned were in more or less constant use before guaiacol carbonate had been placed on the market, and had failed to acomplish what is now claimed and admitted for any method including the latter drug and mild laxatives or enemas. Dr. Woodbridge may be entitled to credit for introducing the drug to the profession in the United States, but I believe it would have redounded more to his credit had he told us to begin with that he imbibed his inspiration from the experiments of Dr. Hoelscher, of Mulheim on the Rhine. ARTHUR J. HALL.

She has "Suffered Many Things of Many Physicians."

CHICAGO, ILL., March 14, 1896.

To the Editor:—A lady recently referred to me for urinalysis and examination of the sputum gives the following history: She has had an operation for the repair of a lacerated perineum and uterine cervix, also afterward had abdominal hysterectomy; a prominent medical man of the city says she has Graves' disease. She has mitral insufficiency, urinalysis shows the urine loaded with albumin waxy, granular and epithelial casts, showing she is well advanced in chronic interstitial nephritis, and the sputa is abundantly mixed with tubercle bacilli. Is there anything more she can have?

Yours truly, A. L. CORY, M.D.

4101 State Street.

PUBLIC HEALTH.

Treatment by Electricity Allowed in New Jersey.—The law regulating the practice of medicine and surgery in New Jersey which was passed in 1894 was amended in 1895 by a provision that it should not apply to any person resident of the State who has been continuously engaged in giving treatment by electricity therein during the past seven years; provided, that such person had graduated from a legally incorporated electro-therapeutic school in good standing.

New Jersey Law as to Attendants Repealed.—The Legislature of New Jersey in 1895 repealed the law passed in 1894 providing

that no person should be appointed as nurse, attendant or other employe in any charitable or penal institution of any township, county or other municipality in the State until he or she had served therein for the space of three months immediately prior to such appointment and had secured from the superintendent of such institution of a certificate of honesty, capacity and adaptibility, and, providing further, that no appointment of any such nurse, attendant or other employe should be made upon the grounds of political partisanship.

New Process of Sterilizing Manuscripts, Books, Etc.—Articles that can not be exposed to a high temperature can be treated with the gas formed from formic aldehyde by a new process, described at a late meeting of the Academie des Sciences, and reported in full in the *Gaz. Med. de Liége* of February 27. The gas can be generated in another room and brought in through a tube. This process avoids the inconveniences of Hofmann's, and is much less expensive.

Prophylaxis of Tuberculosis in Cattle in France.—The *Bulletin of the Académie de Médecine* announces that the Minister of Agriculture proposes to inaugurate drastic measures in regard to the spread of tuberculosis among cattle in France. He is urging legislation to make the tuberculin test legal, and also remuneration to the owners of cattle killed after the test, of one half or one-third of the value of the animal, with strict supervision of all the cattle imported into the country.

To Prevent Blindness in New Jersey.—A law was passed in New Jersey in 1895 providing that should one or both eyes of an infant become inflamed, swollen and reddened, or show any unnatural discharge at any time within two weeks after its birth, and no legally qualified practitioner of medicine be in attendance upon the infant at the time, it shall be the duty of the midwife, nurse, attendant or relative having charge of such infant to report the fact, in writing, within six hours, to the local board of health, which shall direct the parents or person having charge of such infant to immediately place it in charge of a legally-qualified practitioner of medicine, or in charge of the physician of the city, township or other municipality if unable to pay for medical services.

Prophylaxis of Syphilis.—The Acad. N. de Med. de Mexico is urging the authorities to inaugurate a vigorous campaign against the contagious venereal and syphilitic diseases. It advocates the most radical measures of supervision, and the free and liberal supply of remedies to all who apply, with supply stations scattered all through the city, and competent physicians appointed to take the matter in charge. There are ordinances now regulating the social evil, but they are evaded or not enforced. The Academy publication, the *Gacetta Med.* for January contains an able review of the subject with statistics of other countries from which it draws the lesson that sanitary supervision is the need of the day. It calls especial attention to the importance of microscopic examination of the small quantity of pus that pressure causes to exude from Bartholin's glands, and the accessory follicles.

Regulation of Private Insane Asylums in New Jersey.—A law was passed in New Jersey in 1895 to regulate and control private insane asylums, retreats and institutions for care or treatment of persons of unsound mind. First of all, a license must be obtained from the Board of Managers of State Hospitals. Application for this must be accompanied by a plan of the premises proposed to be occupied, describing the capacities of the buildings for the uses intended, the extent and location of the appurtenant grounds and the number of patients of either sex proposed to be received therein. Moreover, before granting the license, the board must cause an examination by one of its number of the premises. The board is also authorized to make proper rules for the management of such institutions, and may revoke its license for a violation thereof. It is also to have every such institution visited at least once a year by one of its members. Within five days after the reception of a patient a copy of the order and commitment or request and certificate which accompanied the patient is to be sent to the secretary of the board, and within the first week of each quarter a written report must be sent to him giving the name, residence and physical and mental condition of every patient, together with the date and cause of discharge or death of every patient having died since last report. Patients may be received on the order or commitment of a judge or justice of a court of record of the State, or by virtue of the certificate of two respectable physicians under oath, setting forth the insanity or unsoundness of mind of such person, which certificate shall be dated within one month of the reception of such person and shall be accompanied by a request under the hand of the person by whose direction such patient is sent, stating the age and place of nativity, if known, the christian name and surname, place of residence, occupation of such patient, and the degree of relationship, or other circumstances of connection between the patient and person requesting his admission.

Practice of Medicine in New Mexico.—A law was passed in New Mexico in 1895 making it unlawful to practice medicine in any of its departments in that Territory unless the person doing it possesses the required qualifications. It also established the "New Mexico Territorial Board of Health," to be composed of seven practicing physicians of known ability and integrity who are graduates of medical schools of undoubted respectability; four to be of the regular, two of the homeopathic, and one of the eclectic school or system of medicine. This board is to issue certificates to all who furnish satisfactory proof of having received diplomas or licenses from legally chartered medical institutions in good standing as may be determined by it. The fee therefor is $5. All examinations of persons, not graduates or licentiates, shall be made in whole or in part in writing and shall be of an elementary and practical character sufficiently strict to test the qualifications of the candidate as a practitioner. The fee therefor is $20. Certificates from the board are to be recorded within three months from date in the office of the county clerk of the county in which the holder resides. The board must refuse to issue a certificate to individuals guilty of unprofessional or dishonorable conduct, and it may revoke certificates for like causes. For the purposes of this act the words "practice medicine" shall mean to investigate or diagnose, or offer to investigate or diagnose, any physical or mental ailment of any person with a view to affording relief, as commonly done by physicians, to suggest, recommend, prescribe or direct for the use of any person, any drug, medicine or appliance, apparatus or other agency, whether material or not material, for the cure, relief or palliation of any ailment or disease of the mind or body, or for the cure or relief of any wound, fracture or bodily injury or deformity, after having received or with the intent of receiving therefor, either directly or indirectly, any bonus, gift or compensation. But it is not to prevent people who are entitled to sell medicines under the laws of the Territory from recommending the same, and nothin in this act is to be construed to prohibit gratuitous service in cases of emergency, or the domestic administration of family remedies, or women from practicing midwifery. Nor is it to apply to surgeons of the United States in the discharge of their official duties.

Leprosy in the United States and British Provinces.—Another leper, this time an American born and 54 years of age, has joined the colony at North Brother Island, New York city. He applied for treatment of a skin disease at the Presbyterian Hospital clinic, where leprosy was promptly diagnosed. He had resided in New York for sixteen years, and for a long time was a sea-going cook. The colony above referred to consists now of a negro, a Chinaman, an Italian and this American.

Along with this announcement by the lay press of March 5, came recent government reports from Canada, which state that leprosy is increasing in New Brunswick and Nova Scotia. There are now a number of cases of leprosy in Cape Breton, N. B., and others scattered all over the province. There is one district in New Brunswick, Port Hood, where it has existed for years among the poor fishing settlements. Tradition traces this back to a French vessel, *L'Indienne*, which had been trading in the Levant and was wrecked at the mouth of the Miramicton River in 1758. It is said that she had on board some Lascar or other Oriental sailors who were lepers. Clothing belonging to some of these men was distributed among the fishermen. The wreck took place in the fall, and the crew associated with the fishermen all winter. Since then leprosy in a dormant way has been present among the French settlers in this region. When the Acadians were expelled by the English in 1765 and were removed to Louisiana, it is said that cases of leprosy were taken with them, for there have always from that date been cases of leprosy in the neighborhood of New Orleans, and a leper hospital was established to care for those afflicted only a few years later, in 1785; but this hospital has been discontinued. In Nova Scotia there have been a few cases of leprosy, but confined to the families of certain Scotch and Irish settlers.

A Norwegian colony in Minnesota and the leper hospital in San Francisco since 1871, show, to say the least, that the Western Hemisphere is not without its opportunities for special study. The fact that the spread of leprosy is slow, and in some countries seems to have ceased, better enables us to trace the course of its dissemination and the conditions of its environments. Thus far it is an importation, or at least carries a foreign stamp. In countries where the spread is rapid it is believed to be both contagious and hereditary; but probably the observation is from the numerical standpoint alone. Therefore our great sister city has or is likely yet to have many opportunities for a study in miniature. But with the growth of personal liberty and the loose methods of charitable institutions there can not well be many advances along the line of isolation or segregation. Meanwhile the Leprosy Investigating Committee of England, under the patronage of the Prince of Wales, has also with its Indian connection a wide field. This organization it will be remembered, had its birth in the promotion of a memorial for Father Damien, a self-sacrificing sceptic to the doctrine of contagion, and to the fact that a leper had been found handling fresh meat in a London market.

Health Reports. The following health reports have been received in the office of the Supervising Surgeon-General Marine-Hospital Service:

SMALLPOX—UNITED STATES.

Louisiana: New Orleans, February 29 to March 7, 45 cases, 14 deaths; Shreveport, February 29 to March 7, 2 cases.
Alabama: Mobile, March 11 to 13, 2 cases.
Michigan: Bay City, Ionia, Imlay Township, Marine City, Riga Township and Saginaw, smallpox reported February 29 to March 7; Detroit, March 7 to 14, 1 case.
Missouri: Lone Jack, March 11, 2 cases; Nevada, March 11, 1 case; New Madrid County, March 11, 37 cases, 8 deaths; Pleasant Hill, March 11, 33 cases, 2 deaths.

SMALLPOX—FOREIGN.

Athens, January 1 to 31, 6 cases, 1 death.
Bombay, February 4 to 11, 25 deaths.
Buenos Ayres, November 1 to 30, 29 deaths; December 1 to 31, 32 deaths.
Buda-Pesth, February 19 to 22, 2 cases, 1 death.
Dublin, February 22 to 29, 5 cases.
Callao, February 2 to 16, 3 deaths.
Cardiff, February 22 to 29, 1 case.
Genoa, February 22 to 29, 3 cases.
Guayaquil, February 14 to 21, 2 deaths.
Hong Kong, January 25 to February 1, 1 death.
Montevideo, January 18 to 25, 2 cases.
Naples, February 13 to March 2, 28 cases, 12 deaths.
Odessa, February 15 to 22, 2 cases, 1 death.
Prague, February 15 to 22, 9 cases.
Rio de Janeiro, January 18 to February 8, 58 deaths.
Rotterdam, February 22 to 29, 1 case.
St. Petersburg, February 15 to 22, 12 cases, 5 deaths.
Swansea, February 22 to 29, 3 cases.
Warsaw, February 15 to 22, 3 deaths.

CHOLERA—FOREIGN.

Calcutta, January 25 to February 1, 36 deaths.
Russia: St. Petersburg, February 15 to 22, 3 cases, 1 death; Volhynia Government, December 29 to January 11, 1 death; Kiev Government, January 12 to 25, 12 cases, 14 deaths.
Egypt: Alexandria, February 1 to 5, 5 cases, 5 deaths; Sawalan, January 30, 1 case, 1 death.

YELLOW FEVER.

Rio de Janeiro, January 18 to February 8, 457 cases, 356 deaths.

ASSOCIATION NEWS.

Section on State Medicine.—The program for the forth-coming meeting at Atlanta is under preparation, and it is desired by the officers of this Section that the titles of the papers should be sent to the Secretary before April 1. The second day of the Section is to be devoted to a discussion of matters relating to a Department of Public Health. Some of the best thinkers of the profession have already promised to participate in the discussion of this interesting subject. There remain a few places on the program which are open to members of the ASSOCIATION wishing to speak on subjects pertaining to public health.

ELMER LEE, Secretary of the Section.

Section on Diseases of Children. It is desirable to secure a few more contributions for the Section on Diseases of Children at the forthcoming meeting of the AMERICAN MEDICAL ASSOCIATION. Those who wish to present papers will please forward the title before April 10, in order to facilitate the arrangement of the program. Address A. C. COTTON, Chairman, 677 Jackson Boulevard, Chicago, Ill., or J. A. WORK, Secretary, Elkhart, Ind.

MISCELLANY.

Criminal Types.—The atlas of types to accompany Lombroso's great work on the criminal has just appeared, and the reader can study them for himself as he meets them. The atlas is an integral part of the whole work.

After-consequences of the Use of the Diphtheria Serum.—Some members of the Société Med. des Hop. have met with cases of albuminuria after recovery from diphtheria treated with the Roux serum. Whether this is merely a coincidence, as some think, was the subject of discussion at a recent session. Different opinions were announced, but all agreed that the serum must be fresh to avoid possible complications, and they urged the adoption of the American method of dating the serum. It is so seldom that the French admit that their methods can be improved upon, that we make this note.

Post-traumatic Brain Troubles.—Vallon described at length at a recent meeting of the Société de Médecine Légale the case of a young cavalry officer who was a favorite with his superiors and every one, a model of wholesome health, mental and physical, and of correct living, when he was thrown from his horse, and injured slightly. He recovered his former health, but his character was entirely changed. He became a drinker, a gambler, licentious and quarrelsome. Dismissed from the service, he is eking out a miserable existence as a basket-maker in his native village. Garnier remarked that the young officer had become a degenerate, owing to the accident and not to hereditary influences, as usual. De Beauvais mentioned a similar case of changed mental conditions, where a man of 50 who was subject to hallucinations, was restored to a normal balance by a pistol shot in the head. Vibert added that it was his experi-

ence that the moral sense was changed in the young, and the intelligence in adults, in accidents to the brain.—*Bulletin Méd.*, February 12.

Premature Development.—Sacchi relates a curious case of a boy who began to grow to an abnormal size in his fifth year, until at nine he was as large as an adult, and pubescent. The left testicle was abnormally developed, while the other was atrophic. Castration was performed on the left side, when the abnormal growth subsided, the pubic hair fell out, the figure grew slight again, the sexual organs retrograded to infantile conditions, while the remaining testicle began to develop normally, and the whole system to become normal. The extirpated testicle was found to be diseased with a cancerous tendency, and Sacchi believes that this abnormal development of the testicle was the cause of the excessive premature puberty and growth.—*Arch. di Ortoped.*, 1895, No. 5.

New York School Law Concerning Drinks.—The New York school law was amended in 1895 requiring the teaching of the nature and effects of alcoholic drinks and other narcotics in connection with physiology and hygiene, as thoroughly as other branches, for not less than four lessons a week for ten or more weeks in each year in all grades below the second year of the high school, in all schools under State control or supported wholly or in part by public money, and also in all schools connected with reformatory institutions. Pupils who are unable to read must be given oral instruction. Normal schools, teachers' training classes and teachers' institutes are to give adequate time and attention to instructing the teachers upon this subject.

Conditions for Degrees in New York.—The New York law was changed in several important particulars in 1895 so that it now provides that the degree of bachelor or doctor of medicine shall not be conferred in that State before the candidate has filed with the institution conferring it the certificate of the regents that three years before the date of the degree he has either graduated from a registered college or satisfactorily completed a full course in a registered academy or high school: or had a preliminary education considered and accepted by the regents as fully equivalent; or had passed regents' examinations representing for degrees conferred in 1898 one year of academic work, for degrees conferred in 1899 two years of academic work, and for degrees conferred in 1900 a full high school course, exception being made to students who matriculated before June 5, 1890.

Admissible Testimony as to Experiments.—Two physicians were called to see a man a very short time after he had been shot, and found him lying on the ground, at the place where the shooting had occurred. They probed the wounds, and traced the course of and located the two pistol balls which were fired into his body by the prisoner. These facts, added to their knowledge of the general conditions under which the affray took place, the supreme court of Tennessee holds, Feb. 13, 1896, in Moore vs. State, made their testimony, as to an experiment which they made a few days before the trial, in order to ascertain, if possible, the relative positions of the deceased and the prisoner at the time the fatal shot was fired, competent to go to the jury. The objection that the experiment was made in the absence of, and without notice to, the prisoner, the court holds, went to the weight of this evidence, and not its admissibility.

Proper Action to Try Title to Office.—A writ of certiorari, the supreme court of New Jersey holds, in the case of State v. Board of Chosen Freeholders of Cumberland County, decided January 7, 1896, is not an appropriate remedy to review the proceedings of the Board of Chosen Freeholders, electing a county physician under such a statute as the New Jersey act entitled "A supplement to an act entitled 'An act respecting county physicians,' approved April 21, 1876," which supplement was approved April 5, 1878, even though the act be unconstitutional in its provisions, when the purposes of the writ is to obtain a determination of the title of the incumbent. In such a case the court says an information in the nature of quo warranto is the only proceeding to try and determine the title to the office.

The "Dark Light" Photograph.—This is the name given to a new and most mysterious process of photographing which we owe to Murat, of Havre. Specimens of it were exhibited at the last session of the Académie des Sciences at Paris, and the descriptions read like fairy tales. The sensitive plate is placed in a metal box, made of lead except one side, which is a copper plate, vertical and parallel to the sensitive plate. An Auer lamp is placed outside of the box on the side of the copper plate, and the object to be photographed is placed inside the box, between the copper wall and the sensitive plate. The box, remember, is closed tight. At the end of a certain time the sensitive plate is removed and developed. The photograph of a fish was shown. By developing the sensitive plate gradually, photographs were obtained from it, showing first the side of the fish nearest the sensitive plate, then of the internal organs, liver, heart, etc., until the last showed the side of the fish farthest away from the plate. The thickness of the copper side of the closed box seems to have no effect on the success of the photograph.—*Bulletin Méd.*, February 19.

Lowest Compensation Allowed.—Where experts are sworn as to the value of professional services, and differ materially in their estimates, the supreme court of Louisiana holds, in the McNamara case, decided Jan. 6, 1896, it is safe to accept the lowest estimate. Here $1,000 was claimed for professional services to the deceased. The services consisted in applying salves, antiseptics and bandages to lacerated wounds on the hands, wrists, back and nose, received in an attempted robbery. No bones were broken and no surgical operation was performed. From the injuries there was a suppression of urine, and the bladder was emptied several times by proper appliances. All these services, it is said by the court, were within the duties of an ordinary, or what is called a "family" physician, to distinguish him from the specialist. Twelve visits were made. Expert testimony was introduced as to the value of the services in question. There was a wide range in speculation. The supreme court, because "it is safe," accepts the lowest estimate made, in connection with the disease with which it was said the deceased was afflicted, which made the dressing of her wounds not only disagreeable, but dangerous, which estimate was $10 a visit, and requires the physician to pay the costs of his appeal.

The "Homolateral" Pyramidal Tract.—Dejerine and Thomas reported at the meeting of the Société de Biologie of February 8, that they had located in some cases of hemiplegia with a cerebral origin, a third pyramidal tract besides the crossed and direct, to which they have given the name of "homolateral." It existed in those cases, at least, and was easily studied by Marchi's method. In one case of total hemiplegia in an adult, caused by a extensive lesion of the posterior segment of the internal capsule, with a total degeneration of the pyramid, they were enabled to clearly distinguish the three fasciculi: one crossed, one direct, and a third, the homolateral, situated in the lateral column, on the same side as the hemispherical lesion, which they were able to follow from top to bottom, as far as the emergence of the fourth sacral nerve. In another case of hemiplegia due to a cortical lesion, resulting in a total atrophy of the pyramid on the injured side, they distinguished on the sound side of the pyramid, at the level of the medulla, in addition to the crossed and direct pyramidal tract, a third, extending obliquely behind and beyond, and "decapitating" the anterior cornua, on the same side, and passing thence to the lateral region of the spinal cord on the same side. This

pyramidal tract has never been noted in human beings, before, but Russell observed it in a deformed cat, and Mellus and Sherrington observed it in a monkey.—*Semaine Méd.*, February 12.

Enormous Doses of Bismuth Subnitrate.—At a recent meeting of one of the Parisian medical societies, a report of which is published in the *Mercredi Médical* for December 11, Dr. A. Mathieu related the case of a patient who suffered from an excess of hydrochloric acid in the secretions of the stomach. He had prescribed bismuth subnitrate in doses of two hundred and twenty-five grains in the morning, and seventy-five grains at bed-time. Atropin sulphate was also given. "This treatment was continued during the physician's absence, which had lasted for about sixty days. In that time the patient had taken altogether twenty-four thousand grains of bismuth subnitrate. This enormous quantity, said the author, had not produced any alteration in the general condition. The patient had had for a long time stomatitis and streaks on the gums, which did not seem to have been aggravated by the bismuth. There had been no slate-colored patches on the inner surface of the cheeks, but there had been a pigmentation resembling that which had occurred in pregnancy: this, however, had disappeared after the treatment had been stopped. Constipation had also been observed, but it had been only incidental, and the digestive functions had not been perceptibly changed."

New York Chiropody Law.—A law was passed in New York in 1895 authorizing the incorporation of "the Pedic Society of New York." Provision was made for a board of three examiners who are to examine all applicants to practice chiropody within the State. The examination, either oral, written or both, is to be on the anatomy and physiology of the feet, therapeutics, chemistry, minor surgery and bandaging. Applicants must be over 21 years of age, citizens of the United States and residents of the State of New York. The society is entitled to all the privileges and immunities granted to medical, dental and veterinary societies of the State. A register of chiropodists is to be kept by the county clerk, with whom registration is to be made. But nothing in this enactment shall be construed to prohibit the services of an authorized practitioner of a neighboring State, when incidentally called into requisition, or to prohibit any duly and legally licensed or authorized physician or surgeon from practicing chiropody or any branch thereof.

Chemic Color Tests with Albuminoids.—Landsteiner has been studying the color reaction of albuminoids with nitric acid and phenol, and describes the results of his experiments in the *Centralblatt für Phys.* of Feb. 23 and Oct. 5, 1895. (For the direct formation of diazo substances out of phenol, see *Ber. d. Deutsch. Chem. Ges.*, viii, p. 98.) He produces a diazosalicylic acid, $C_7H_6O_3N_2$, in the form of yellow crystals, by dissolving salicylic acid in 50 per cent. acid of vinegar and adding nitrate of soda. The crystals form slowly, dissolve with difficulty in water, alcohol and ether, and swell with heat. Heating them with hydriodic acid produces, with a copious development of nitrogen, a colorless, iodized, crystallizing acid. Another substance he produced was in the form of fine needles, which show a very pronounced reaction with resorcin, and react as a nitrate in the presence of brucin and diphenylamin. This he obtained from salicylate of soda treated with nitrate of soda and muriatic acid (showing an intense red color with resorcin and lye) distilled and extracted with ether in vacuo, with the salt precipitated by dry ether.

Rape in Oklahoma.—The definition of rape in Oklahoma was amended in 1895 so that it is now an act of sexual intercourse accomplished with a female, not the wife of the perpetrator, under either of the following circumstances: 1, where the female is under the age of 16 years, of previous chaste and virtuous character. 2, where she is incapable through lunacy, or any other unsoundness of mind, whether temporary or permanent, of giving legal consent. 3, where she resists, but her resistance is overcome by force or violence. 4, where she is prevented from resisting by threats of immediate and great bodily harm, accompanied by apparent power of execution. 5, where she is prevented from resisting by any intoxicating, narcotic or anesthetic agent, administered by or with the privity of the accused. 6, where she is at the time unconscious of the nature of the act and this is known to the accused. 7, where she submits under a belief that the person committing the act is her husband, and this belief is induced by artifice, pretense or concealment practiced by the accused with intent to induce such belief. What is termed rape in the first degree is that committed upon a female under the age of 14 years (instead of 10 years, as before), or incapable, through lunacy or any other unsoundness of mind, of giving legal consent, or accomplished by means of force overcoming her resistance.

Regulation of Veterinary Practice in New York.—The New York law relating to the practice of veterinary medicine and surgery was greatly extended in its provisions in 1895. A State board of veterinary medical examiners was established, to consist of five members. Candidates for examination must be more than twenty-one years of age; of good, moral character; have acquired general education; have studied veterinary medicine not less than three full years, including three satisfactory courses, in three different academic years, in the veterinary medical school registered as maintaining at the time a satisfactory standard; have received a degree as veterinarian from some registered veterinary medical school. The preliminary education required, which is that required as a condition to receiving a degree in veterinary medicine, is practically the same as that required of candidates for medical or dental degrees. The examinations are to be conducted by a regent examiner, who shall not be one of the veterinary medical examiners, from questions prepared by the regents from lists furnished by the members of the board of veterinary medical examiners, as required, covering comparative anatomy, physiology and hygiene, chemistry, veterinary surgery, obstetrics, pathology and diagnosis and therapeutics, including practice and materia medica. The examinations shall be exclusively in writing. The regents of the University of the State of New York issue the license to practice after the board of veterinary medical examiners have examined, marked and transmitted to them the answers. Every license must be recorded in the office of the clerk of the county in which the holder intends to practice. No person is allowed to practice veterinary medicine who has ever been convicted of a felony by any court, or whose authority to practice is suspended or revoked by the regents.

Practical Points Regarding the Horseless Carriage.—Mr. William Steinway, the well-known pianomaker, has for some years been a close observer of the horseless vehicle, and especially of the Daimler motor-carriage. He has contributed to the *Independent* some facts that will interest those medical men who are looking forward to the day when they can dispense with their equine helpers. The Daimler carriage has been a repeated prize-winner, and at the contest last year, at Paris, it received the first prize of the value of $8,000 for the best four-seated vehicle. According to Mr. Steinway:

"The price of the horseless carriage at the present time is from $1,200 up; but later on—even the manufacturers can not tell how soon—when the carriages are turned out in considerable numbers, and when the method of making them may be still further simplified, it will be possible to reduce the present rate. The conditions are very much as they have been seen in the bicycle industry, and in the manufacture of firearms; such improvements have been made in the construction of both these articles so as to make it possible for a person of ordinary means to own a good bicycle or a trustworthy gun. At first the horseless carriage will necessarily be used by the rich resi-

dents of cities in neighborhoods where good roads predominate. It was the design of the maker of these carriages that, in the beginning they should be used as luxuries; but they will also be found valuable in the business world. Large dry-goods houses and other stores having many parcels to deliver, will use them instead of the delivery wagons, sending them to the outskirts of the city and the suburbs, and finding this method of transporting their packages both rapid and cheap, as compared with the old way. A three-horse-power petroleum engine, it has been demonstrated, can be run in New York at a cost of three cents an hour. Such a motor would do the work of two horses which cost many times more than three cents an hour. The Society for the Prevention of Cruelty to Animals is already speculating on the cost of making a change in its ambulances from horses to Daimler motors. The Daimler motor carriages are built for four different speeds—3½, 6, 9 and 14 miles per hour. The speed can be properly regulated by means of a hand lever, to suit the condition and grade of the road. By means of the lever, also, the carriage can be made to back like any ordinary vehicle. In France and Germany carriages are not allowed upon the street unless they can back. This requirement is much more necessary in the United States, where our roads are much narrower than they are abroad. Our roads, however, are becoming better and better each year, thanks to the general interest which has become awakened among the people on this subject, and to the special efforts of the great army of bicycle riders to whom good roads are of such importance. The vehicle can be properly steered and can be used over hilly roads. Many of the trial trips of these carriages have been made through mountainous regions, such as the famous Black Forest in Germany, with which most American travelers are familiar. A journey in that region means up and down hill all the time. The cost for fuel is about one cent per hour per horse power, and enough gasolin or petroleum can be carried for a run of twenty hours, or even more."

Enforcing the Medical Practice Law in New York.—"Dr." Henry Jordan, of New York city, has been arrested on a charge of practicing medicine without legal qualifications. It is charged that he has been assuming to practice under the name of a Dr. Henry I. Jordan, who died in March, 1892, and who had for his best credentials one of the Buchanan diploma-mill's sheepskins, dated in 1879. At the hearing he produced a parchment about three feet square, with a large red seal and blue ribbon certifying that its proprietor was qualified as a doctor in arts and medicine at the University of Medicine and Surgery of Philadelphia. Heavy bail in the sum of $2,000 was exacted by the magistrate, and the case went to the grand jury. The New York *Herald*, which took a hand in the suppression of the diploma-mills of Buchanan and Paine in 1880, recites a part of the history of the gigantic fraudulent medical diploma factory, which was then and had been for years carried on in Philadelphia. The two individuals who were at that time particularly interested in the wholesale manufacture of diplomas in the City of Brotherly Love, were John Buchanan, who conducted the Eclectic College of Medicine, and a man named Paine, who presided over an institution styled the Philadelphia University of Medicine. Buchanan was called the founder of bogus medical colleges in Philadelphia, while Paine was his disciple. John Buchanan was a porter in an oil cloth store in Arch Street, Philadelphia, some thirty years before. The Eclectic Medical College was then located at Sixth and Callowhill Streets. Buchanan became connected with it, and soon after assumed some pretence at appearance. A split occurred in the so-called faculty in 1858, and Buchanan came to the very front. It was about this time that the University of Medicine was chartered by Paine.

In the loose legislation of those days Buchanan succeeded in obtaining a charter for the American University, of Philadelphia, which also began to grind out diplomas. When the legitimate school of medicine began to suffer there was an investigation, and a committee of the Senate reported that the testimony concerning the illicit traffic revealed a startling condition of affairs. Abundant evidence was produced before them to show that degrees had been conferred upon persons who had never attended a lecture or received any instructions whatever.

No Obligation to Employ Best Medical Skill.—In the case of Reed v. City of Detroit the plaintiff recovered a judgment for personal injuries sustained by stepping into a defective culvert. The defendant desired to prove by a practicing surgeon of Detroit, who had made a personal examination of the plaintiff, that the treatment plaintiff had received was insufficient and improper, and if she had been treated properly and the treatment continued, she would then be in a much better condition than she then was: that the proper medical treatment would probably have alleviated or prevented some of the difficulty under which she was suffering; that there was some adhesion in the joint which would have been prevented by proper surgical treatment. The supreme court of Michigan, Jan. 28, 1896, holds that such testimony was, under the circumstances, not improperly excluded. It says that it was competent to show that the injury was aggravated or increased by want of proper treatment, provided it was also shown that it was due to the wilfulness or negligence of the plaintiff; but where a person sustains personal injury through the negligence of another, he is not to be deprived of his full damages because of the failure of his surgeon to administer the best remedies or treatment. There is no obligation to employ the best medical or surgical skill. It is sufficient if one employs a physician believed to be competent, and reasonable care is used in the selection. In support of these propositions several cases are cited, among them Rice v. City of Des Moines, 40 Iowa, 644, in which it was likewise held that if reasonable care is used in the selection of the physician, and his employment is not unreasonably deferred, the damages will not be diminished because the most skillful is not employed: that the plaintiff was bound only to employ a person of such reputed skill and reputation as persons of reasonable care and prudence were accustomed to employ in such cases. On the other hand, the supreme court of Michigan says that it is also the law that a plaintiff should not be allowed increased damages where such increase is ascribable to his want of reasonable care. The evidence in this case showed that a physician and surgeon of eighteen years' practice, and a graduate of the University of Michigan, was called and treated the plaintiff, which the court holds was prima facie proof, at least, of reasonable diligence and care in the selection of a surgeon, although, in answer to counsel for defendant, he said that he did not make such cases a specialty. Unless, therefore, the testimony offered tended to show the contrary, or was accompanied by an offer to show negligence of the plaintiff, the court holds that its exclusion was not injurious to the defendant. Discovering nothing in the testimony offered that would have had such a tendency, the court held that it was not error to exclude it, as above stated.

Not Bound to Cure.—A physician was called as a specialist to treat the eyes and ears of a boy who had sustained serious injury by the explosion of a dynamite cartridge. An action was brought against the father to recover compensation, the physician testifying as to the value of his services, the circumstances under which they were rendered, and the nature of his treatment. The account consisted of a large number of items for visits, etc. The defendant's counsel proposed to cross-examine the plaintiff as to the amount charged for particular visits, and what they were worth. On objection, the trial judge ruled that he might be examined as to what had been done by him, but as to how much he had charged for each visit was immaterial: that if the defendant proposed to make the defense that the services were not worth anything, he could make it, and the jury would pass upon it. There was no dispute as to the number of visits or items, and the supreme court of Wisconsin says, Wurdeman vs. Barnes, decided Jan. 28, 1896, it sees no reason for thinking that the defendant was prejudiced by the ruling, and that he lost nothing except the privilege of making a lengthy and useless cross-examination as to each visit by way

of contrasting the value of one or more visits with the others. The defense was also made, in this case, that the boy grew worse under the plaintiff's treatment, and that he grew better after the plaintiff had been discharged. But this, the court holds, does not show that the plaintiff was guilty of negligence or unskillfulness in treating him. In particular, it was contended that the plaintiff improperly applied and used a tube of hot water over the nose to cure the ailment or injury to the eyes; that the heat was so great as to be injurious. Other physicians were in attendance on the patient, but their evidence was not produced. No surgical or medical witness was called by the defendant to say that the treatment was improper or negligent in the least degree, whatever uneducated persons or non-experts might conjecture upon the subject. The plaintiff could not be convicted of malpractice, the court says, on such evidence. He could not be held responsible simply because he failed to cure the defendant's son, nor for mere misjudgment in treating him, if the treatment was such as physicians and surgeons of ordinary knowledge and skill would apply. The general rule of law, continues the court, is that a physician or surgeon who holds himself out as such, in treating a patient, must exercise such reasonable care and skill in that behalf as is usually exercised by physicians or surgeons in good standing, of the same system or school of practice, in the vicinity or locality of his practice, having due regard to the advanced state of medical or surgical science. There being an entire absence of competent evidence to go to the jury under the counter-claim to sustain a verdict finding the plaintiff guilty of negligence or want of proper skill in treating the defendant's son, the court holds, in conclusion, it could not be left to the jury to find a verdict upon mere conjecture, and that the trial judge properly directed a verdict for the plaintiff.

A "Rational" Treatment of Alcoholism.—The editor of the *Sanitarian*, March, quotes with favor a highly disciplinary form of treatment for drunkenness that has materially lowered the statistics of alcoholism at the Vancouver Barracks, as inaugurated by Surgeon W. H. Arthur:

"The number of cases of simple acute alcoholism that appeared at sick call and during the day, when I first assumed charge of this hospital, was unusually large, and resulted in the laying down of certain rules in an effort to discourage drunkenness as far as it was in my power. No man is taken on the sick report or excused from any duty unless, in my opinion, his condition would make it actually dangerous for him to keep at work. I may say here that such cases are in my experience very rare, and that a mistaken pity for a man suffering from the effects of a debauch is liable very often to lead a too indulgent post-surgeon to excuse him from duty when the guard-house, and not the hospital, is the proper place for him. I am confident that this mistaken kindness has done a great deal in the past to encourage drunkenness. Each man who has reported at the hospital in any stage of simple alcoholism is treated as a case of alcoholic poisoning, taken immediately to the operating room, his stomach emptied by the use of the stomach pump, and thoroughly washed out with warm 2 per cent. soda solution. After this he is given a bowl of hot beef extract, with cayenne pepper, allowed an hour's rest, after which he is generally perfectly able, however unwilling, to do his duty. If the weather is severe, either very hot or very cold, it might not be safe in his depressed condition to force a man to work out-of-doors immediately after this procedure, but at this post the extremes are not great, and it has in no case resulted prejudicially to the patient. Occasionally some resistance is met with, but two, or at most three, able-bodied hospital corps men and a perforated wooden gag, such as comes with the stomach pump, will, with patience and determination, overcome almost any ordinary opposition. I have found for this purpose the gum-elastic stomach tube in the old-tashioned stomach-pump case, connected with Allen's surgical pump, work very satisfactorily. The ordinary soft rubber lavage tube is too easily collapsed, and is more difficult to introduce when there is resistance.

"The effect of this treatment has been uniformly excellent. The stomach, emptied of its irritating contents and cleansed of the thick, tenacious mucus that is always present in such cases, is much less irritable and rarely rejects the beef extract which is given immediately: the nervous symptoms improve at once, and sedatives administered by the mouth have a far more prompt and lasting effect, and in almost all cases the craving for liquor is very much diminished. Of course cases may occur which are too serious for such summary treatment. I have not met with any myself, and have used the stomach pump with good effect in cases of even delirium tremens and alcoholic coma."

New York Dental Law.—In 1895 the New York Legislature amended article 9 of chapter 661 of the laws of 1893 by revising the article and vesting the power of granting licenses, to practice dentistry, in a State board of dental examiners and assimilating in that regard the licensing of dentists to the licensing of physicians. What was previously known as the State Board of Censors of the Dental Society of New York became the Board of State Dental Examiners. A candidate for examination for license to practice dentistry must be at least 21 years of age, of good moral character, and satisfy the board by examination or otherwise, that prior to commencing his professional studies he had a preliminary education equivalent to that required of students entering the dental colleges of the State, which after Jan. 1, 1897, shall be not less than a full high school course; and either has been graduated in course with a dental degree from a registered dental school or else, having graduated in course from a registered medical school with the degree of doctor of medicine, has pursued thereafter a course of special study of dentistry for at least one year in a registered dental school, or holds a diploma or license conferring full right to practice dentistry in some foreign country and granted by some registered authority. Upon recommendation of the board, licenses may, it is further provided, be issued, without examination, to applicants who furnish satisfactory evidence that they have been duly licensed to practice dentistry in any State or country after full compliance with its dental laws, and have been thereafter lawfully and reputably engaged in such practice for five years next preceding; provided, that their preliminary and professional education shall have been not less than that required in New York. Licenses may also be issued on the certificate of the board that after due investigation or examination it finds the applicant's education and professional attainments and experience of not less than five years in actual practice to be together equal to the requirements for a license. No degree in dentistry shall be conferred on any candidate who has not before matriculation in the institution conferring it, filed the certificate of the regents that he has had a satisfactory preliminary education, which for those matriculating after Jan. 1, 1897, shall be not less than a full high school course. A person having lawfully received a dental degree in course from a registered dental school, or the degree of doctor of medicine from a registered medical school, and having thereafter lawfully practiced dentistry for five years may apply to the regents for the degree of master of dental surgery, which they may confer after examination. Twenty-five dollars is the fee for license to practice. Registration is to be made with the county clerk. Suspension from practice or revocation of license is authorized for unprofessional or immoral conduct, or for gross ignorance or inefficiency in the profession. It is made a misdemeanor, among other things to sell, offer to sell or barter any diploma or document conferring or purporting to confer a dental degree, or certificate; or to purchase or procure same by barter; or to fraudulently alter same; or to attempt to use same; or to practice under a false or assumed name; or to assume falsely a dental degree, or falsely represent having received a medical or dental degree or license.

Health of the British Army.—The report of Director General Mackinnon, to the Secretary of State for War, on the health and sanitary condition of the army for the year 1894, is as full as the British Army Medical Department reports usually are

of matters interesting to army medical officers, medical statisticians, health officers and sanitarians generally. The average strength of the army amounted to a little over 203,000 men, nearly 100,000 of whom were on service at home and the remainder abroad. Seventy-one thousand men were stationed in England and wales, 25,000 in Ireland, and 3,500 in Scotland. India was garrisoned by 71,000, Malta by 8,000, Egypt and Gibralter each by 5,000, and the other colonial stations by commands varying from 579 men in Cyprus to 3,172 in South Africa and St. Helena.

The average admission rate for sickness, including injuries, at the Home stations was 655.9 per thousand of strength, with 40.91 as the rate of nonefficiency, a death rate of 3.7 and a discharge rate of 17.06, the average sick time to each soldier of the average strength being 14.93 days. These rates compare favorably with those of previous years. Cyprus, Canada and Bermuda were the only foreign stations that had lighter rates than the average of the commands on Home service. Canada had only 20.21 constantly sick per thousand of strength, and only 7.74 as the number of day's sickness during the year to each man of the strength present; but these figures do not include the 11.09 men sent home as invalids per thousand men in the command. India had the largest number constantly sick, 91.71 per thousand men, equal to 33.74 days of sickness to each soldier present with the colors, with the heavy death rate of 16.81 and 40.64 discharged for disability or sent home as invalids. The rates were large in China also, 77.97 constantly sick, with 17.98 deaths and 87.14 men discharged or sent home on account of sickness. Egypt had the rate of constant nonefficiency as high as China, but its rates for death and discharge were relatively light.

At the Home stations there were 11 cases of smallpox distributed among six garrisons. Scarlet fever caused 233 admissions and 3 deaths; and measles 92 cases with no death. Enteric fever occasioned 124 admissions and 21 deaths. Twenty-four of the cases occurred at Dublin, where they were attributed to the condition of the River Liffey, which is characterized as nothing more than an open fecal drain when the tide is out. At Caterham 21 cases occurred, ascribed to the contamination of the well water by sewage. The outbreak subsided when the use of this water was discontinued. Venereal diseases furnished an admission rate of 182.4 per thousand of strength, with 16.42 constantly sick, a considerable improvement on the rates of former years. Of 313 admissions and 81 deaths recorded as from tubercular diseases, 298 cases with 71 deaths were recognized as due to tubercle of the lungs. The English soldier on home service is less exposed to injury than the United States soldier, for the admission rate of the former was only 93 per thousand and the death rate .62, as compared with 244.21 and 2.13, the corresponding rates of the latter. Suicide caused 24 deaths in the command, the average of the previous ten years being 21. In the United States we had 18 cases in a force only one-fourth the size of the English Home Service Command. Among the general injuries recorded were 3 cases of lightning stroke in men of the Engineers who were manning the cable of a captive balloon during a thunder storm.

In the colonies, the general health in the majority of cases, showed improvement in comparison with 1893, particularly in Egypt and in Mauritius; the variation at other stations was not so great either way. An epidemic of bubonic plague appeared at Hong Kong following the outbreak at Canton. The disease, which was of a severe type, was practically confined to the Chinese; but some soldiers who were employed on working parties were attacked by it, and the death of one officer was due to it. Bengal showed an increased rate of sickness when compared with the record of 1893, and with the average of the preceding years, the principal factors in the increase being malarial fevers and venereal diseases. The average rate of admission for malarial fevers was 473.7 per thousand, with 15.87 of constant sickness. At one of the stations the admission rate for venereal disorders rose to 674.6 per thousand men. On account of such large rates at many of the posts, an inquiry was instituted to determine the number of individual soldiers who had become affected by these diseases. The main facts revealed by the investigation were that out of 70,642 men present on July 15, 1894, 26,150 men had, since enlistment, been admitted for gonorrhea; 23,284 for primary syphilis; 8,669 for secondary syphilis, and 14,820 for other venereal diseases. The figures relating to secondary syphilis show to what an extent the British Army in India suffers from a disease which seriously undermines a man's constitution, makes him liable to break down at any time, particularly when exposed to the fatigues and hardships of active service, and at all times makes him less able to contend against acute disease, and thus increases the mortality of such disease. Previous to their arrival in India for their present term of service, 11,160 men had suffered from gonorrhea; 8,334 from primary syphilis; 3,248 from secondary syphilis, and 3,914 from other venereal diseases. Since their arrival in India, 14,950 men who had not previously suffered from primary syphilis were admitted into hospital for that disease, and 5,421 who had not previously suffered from secondary syphilis were admitted for that disease. A severe outbreak of cholera with a high percentage of mortality occurred in Bengal, a total of 205 admissions and 146 deaths. The greatest number of cases was reported from Lucknow, 144, with 97 deaths, mostly in the East Lanarkshire Regiment. An investigation was held as to the probable cause of the outbreak. As regards the attacks in the regiment mentioned, the committee was of opinion that the sand in the filter beds attached to the wells had become infected. In other instances, no definite conclusion was reached. The statistics of sickness in the Madras Presidency show increase on the previous year, the chief causes of the increase being, as in Bengal, malarial fevers and venereal diseases. The health of the troops in Bombay compares somewhat unfavorably with 1893 and the previous ten years, the causes of the increased inefficiency being the same as in the other two presidencies, although enteric fever also contributed to the increase. At Mhow, 110 admissions, with 25 deaths were recorded, mostly among the men of the Durham Light Infantry. This was attributed to the milk supply, as other European troops at this station were unaffected, while the water supply was the same for the whole garrison, and the sanitary conditions outside of the milk supply were such as to affect all the troops alike.

The data relating to recruiting in this report are of interest. The number inspected during the year was 61,985; of these men 25,074 were rejected, a rate of 404.51 per thousand. Of the remaining 36,911 accepted men 369 were subsequently rejected as not likely to become efficient soldiers. The rejections among English and Welsh candidates for enlistment amounted to 412.07 per thousand; among Scotch 371.75; Irish 385.22; colonial and foreign 341.00; among laborers, servants, husbandmen 410.42; manufacturing artizans, as cloth workers, weavers, etc., 431.82; mechanics employed in occupations favorable to physical development 386.02; shop men and clerks 424.83; students 390.79; boys 141.67. It is evident that the boys were accepted on the promise of their future. Defective development, that is, under the standard for height, chest measurement and weight, caused a large number of rejections, 178.55 per thousand. Deficient chest measurement gave the highest rate, 110.27. Among other causes of rejection, the most frequent were defective vision 42.90; heart affections 19.62; defects of the lower extremities from fracture, contraction, luxation, etc., 17.44; flat feet 14.71; loss of teeth 16.26; varicose veins 15.84; varicocele 14.25. The ages of the accepted recruits were, under 17, 39.2 per thousand; 17, 9.6; 18, 422.9; 19, 207.5; 20, 105.6; 21 and upward 215.2. The immaturity of the British recruit is manifest from this record. Excluding

boys under 17 years of age, the average age of recruits finally accepted during the year was 19.4 years, the average height 5 feet 5.8 inches; the average weight 124.9 pounds, and the average chest measurement 33.6 inches. Of the accepted recruits, 62 per thousand are reported as well educated: 899 able to read and write; 14 able to read only; 25 unable to read.

As usual the leading article in the appendix to the report is a summary of the progress of hygiene during the year. The only American book mentioned among the new publications is the third edition of Rohé's Text Book of Hygiene, concerning which it is said that the information afforded in this volume is of a thoroughly reliable nature, and the literary style is remarkably terse and clear, but the general arrangement of the matter is not good, nor is the treatment of some subjects quite as full as they deserve. Brigade Surgeon, Lieut.-Col. J. Lane Notter, in discussing the relations of soils to diphtheria, considers that in the incidence of epidemic diphtheria we are justified in regarding, in country places at least, constant soil moisture as a chief factor; while possibly in the case of towns and cities, mere soil dampness is subsidiary to other more potent causes. Favorable mention is made of Bassenge's method of obtaining a sterilized drinking water by shaking up five liters of water with a gram of chlorid of lime, letting the liquid stand for fifteen minutes and then adding drop by drop a solution of bisulphite of calcium until the water has neither taste nor smell of chlorin. Some observations of Dr. Armstrong, health officer of Newcastle-on-Tyne, which show that houses having a water carriage removal of excreta had fewer cases of typhoid fever than those having the pail closet system, are cited as having an important bearing on the prevalence of this disease at military posts in India, where the dry earth system is generally used. Surgeon Major R. L. Love reports twenty-five cases of syphilis treated by hypodermic injection of a few minims of a cream made by rubbing up one drachm of mercury with two drachms each of lanolin and olive oil. He is satisfied that a course of six weeks, or less, of these injections will, in most cases, remove all signs of the disease. Surgeon Captain G. S. Walker reports a case of alarming morphin poisoning in which he "determined to adopt the treatment recommended by Dr. William Moor, U. S. A., reported in the *British Medical Journal* of June 22 of the current year (1895), and accordingly with considerable difficulty got him (the patient) to swallow five grains of permanganate of potash, dissolved in half a pint of water." As a result of this experience he believes that in the permanganate we have a safe and reliable antidote in opium poisoning. There are many other interesting papers and reports of cases in the appendix to this report of the Army Medical Department, but space does not permit of a more extended notice.

Practical Notes.

Amblyopia Attending Lactation.—Heinzel reports three cases of amblyopia accompanying lactation, that in one amounted to absolute amaurosis. He describes them and states that the most rational treatment is to suppress the lactation.—*Gaz. méd. de Paris*, February 15.

Cure of Writer's Cramp by Treating for Bright's Disease.—Bonnier describes a case of this kind in the *Bulletin Méd.* of February 19, for which he prescribed a strictly milk diet and very hot saline baths, producing marked improvement. He suggests that indications of renal trouble should be carefully looked for in the professional cramp of writers and telegraph operators.

To Locate the Large Curve of the Stomach and Pylorus.—Boas, of Berlin, prefers a flexible esophageal sound to an examination with a light. The sound can be palpated and the outlines located much more accurately. In case of doubt, the patient can draw the sound up a little, himself, which will enable the operator to determine exactly the location of the sound and outlines of the stomach.

Microbes the Cause of Biliary Calculi.—Gilbert and Fournier reported at a late meeting of the Société de Biologie that as the result of extensive experiments on their part, they could announce that the bacterium coli played a most important part in the pathogenesis of lithiasis. Other microörganisms also join in this work, but the bacillus coli is never absent.

Ovarian Resection.—Matthaei has successfully treated in this way six cases of ovarian troubles that seemed to indicate ovariectomy. In each case menstruation continued and four conceived afterward. Naturally, he attempted it only in younger women, where there were dermoid cysts, retention, etc., as it is strictly contra-indicated in malignant growths, etc. *Memorabilien*, Vol. 39, No. 9.

Sterilization of Catgut. According to the Russian periodical *Wratch*, No. 51, 1895, the best means to sterilize catgut is with a 5 per cent. solution of nitrate of silver, which kills every germ. The thread should be rolled on a piece of glass and left a day in ether, then put into the nitrate of silver in a dark-colored vessel, full of the solution. Catgut thus prepared is as flexible as ever and thoroughly sterilized. It should be kept in alcohol or juniper oil.

Steam in the Treatment of Eczema. Lieberson announces in the *Rousk. Med.*, No. 52, 1895, that he has been very successful with direct applications of steam in chronic cases of eczema. He steams the infiltrated surface from fifteen to thirty minutes each day or every other day, and has healed many in this way. He uses an instrument resembling a laryngeal vapor inhaler, with a flexible rubber tube. Six weeks to two months are required in severe cases.

Treatment of Keratitis with Methyl Violet, with or without Galvano-Cauterization.—Chibret uses local applications of a 10 per cent. alcoholic solution of methyl violet limited to the surface of the ulcer, supplemented in some cases with galvano-cautery. Speville combines with this sub-conjunctival injections of tincture of iodin, which Chibret also recommends where there are syphilitic complications.—*Bulletin Méd.*, February 12.

Effect of Electric Currents on Microbes. They produce the effect of attenuating the toxins, transforming them in vaccins, according to d'Arsonval in the *Bulletin Méd.* of February 12. But this is owing to the oscillations in the media, and not to any effect on the bacteria themselves. This announcement is of great theoretic interest and may lead to discoveries that will enable us to destroy poisons without destroying the cells.

The Toxic Effect of Extensive Burns. Some conclusions drawn from experiments on dogs, are that after warding off the consequences of the nervous shock, every effort must be made to stimulate the secretion of urine. This is of great importance on account of the intoxication that follows extensive burns. The patient should also be made to inhale as much oxygen as possible, to counteract the diminishing oxydation in the system and fight the toxins.—*Gaz. Med. di Roma.*

Resection of the Vas Deferens in Hypertrophied Prostate Gland. Helferich reports that he has secured good results by excising a piece of vas deferens, which is an exceedingly safe and easy operation, not even requiring an anesthetic, and free from after consequences. The functional results were extremely favorable, as the urination became much improved, although no decrease in the size of the prostate gland was perceptible in most cases. He has performed this operation in ten cases, and recommends it in the *Deutsch. med. Ztg.*, 1896, No. 3.

Spinal Puncture. Fürbringer reports the results of this operation in eighty-six cases and as advantageous in diagnosing, but of less value in therapeutics. He makes the puncture between the second and third, or the third and fourth lumbar vertebræ. Quincke places the patient on his side, but Fürbringer seats him in a chair. He uses a rather large Pravaz syringe, and in several cases withdrew 110 c.c. of liquid by means of an aspi-

rator. He believes that the examination for tubercle bacilli in the liquid thus obtained is as important as the investigation of the sputum in lung troubles. This operation sometimes relieves headaches, convulsions, etc., but it is in diagnosis that it is especially recommended.—*Memorabilien*, Vol. xxxix, No. 9.

Simple and Absolute Cure of Enuresis Nocturna.—This is accomplished by placing the patient in bed in a perfectly horizontal position, without a pillow, and then raising the foot of the mattress until the body slopes at an angle of 130 or 150 degrees to the horizontal position. The bolster under the foot is usually sufficient. Three weeks of this treatment will cure the most obstinate case in a child or adult, Stumpf announces has been his experience, without a single relapse and without restricting the quantity of liquids.—*Memorabilien*, 39 Vol., No. 9.

Airol, the New Substitute for Iodoform.—A writer in the *Ther. Woch.*, No. 1, 1896, advocates the use of airol, as he has employed it in more than two thousand cases, with success, and with none of the inconveniences of iodoform. The powder is sprinkled on the surface which is then covered with airolated gauze. Wounds following operations, recent lesions, and all inflammatory processes, acute as well as chronic, and especially, ulcers and burns heal surprisingly with this treatment.—*Nouveaux Remèdes*, February 24.

Chlorotic Bright's Disease.—Professor Dieulafoy first called attention to the renal form of chlorosis which is so infrequent that there are only fourteen cases on record, according to an article in the *Bulletin Médical* of February 12, besides the thirty cases reported by Dieulafoy. It proceeds to describe another, the case of a young girl from the country, a chlorotic, feeble creature, who supported herself by the fatiguing occupation of delivering milk to customers. An attack of the grippe brought her to the hospital, where she presented a typical case of what the author calls "chloro-Brightism," and devotes four pages to a critical study of the case.

Our Hypnotics.—Dr. Kersch states that the results of his experience in thirty-four years of practice, are that in Knoll's codein we have the most efficient hypnotic of all. Sulphonal loses its effect in a day or so, and the dose must be increased, which is very dangerous, as it has a cumulative toxic influence. The same is true of trional, to a less extent. The only way to use them is to alternate them with chloral or codein. Chloral also loses its effect in a short time. The special advantage of Knoll's codein is that it has no constipating effect, like the other preparations of opium, and is often successful when even large doses of morphin have failed to soothe.—*Memorabilien*, Vol. 39, No. 9.

Antipyrin in Infantile Diarrhea.—As a result of 500 observations in the hospitals of Bordeaux, Rousseau announces that antipyrin exerts a most beneficial effect on the reflex diarrheas of teething children, as also in cases of colic. It also cures the chronic diarrheas that accompany dermatoses and impetigo. He gives it as follows: Antipyrin, 0.5; syrup simpl. and aqua aa. 50.0. One teaspoonful before nursing, every two hours. For older children, he increases the dose 0.5 grams for each year. It does not benefit all kinds of diarrheas, but only those that depend on local inflammatory processes in the bowels, or an acid fermentation instead of the normal intestinal assimilation.—*Münch. Med. Woch.*

New Method of Treating Misplaced Uterus.—At a recent meeting of the physicians of Lübeck, Gottschalk described a new method of treating prolapsus uteri, which he happened upon by accident. On account of a complicating retro-uterine abscess, the Douglas pouch had to be drained with iodoform gauze, and the neck of the uterus pushed back against the pelvis, to which it adhered with a cicatricial growth. Since then he has produced the same effect, several times purposely, with much success. He proceeds first with a median colporraphy, leaving a small opening which he tampons with iodoform gauze, for a week. This long tamponing causes the neck to grow to the back, without interfering with the wound from the colporraphy. By this means the cervix is firmly fastened with an intraperitoneal growth. The small opening can be left to take care of itself, the growth will be all the stronger.—*Wiener Klin. Rundschau*, February 8.

Cocain Hydrochlorate in Dental Neuralgia.—According to the Lyons *Médical*, for January 5, odontodol is the name given in Italy to a new preparation which has proved very efficient in the treatment of dental neuralgia. The formula is as follows:

Cocain hydrochlorate	15 parts,
essence of cherry-laurel	15,
tincture of arnica	150,
sol. of ammonium acetate	300.

If the pain is caused by caries, a piece of cotton saturated with the liquid is put into the cavity of the tooth; if it is caused by inflammation of the pulp, the mouth should be washed out with a solution consisting of one part of odontodol diluted with two parts of a tepid decoction of linseed. Finally, if the pain extends to the entire jaw, the painful surface should be thoroughly rubbed with several drops of odontodol, after rinsing the mouth with the solution.

Alcohol in Obstetric Disinfection.—Alcohol has not been credited with much power as an antiseptic, as germs continue to exist in it, but some recent experiments of Ahlfeld and Vahle place the matter in a different light. They announce that alcohol kills all bacteria that are to be feared in obstetric cases, if the substances to be disinfected are first wet. They report the results of numerous experiments in the *Deutsche Med. Wochenschr.*, of February 6, in a most interesting article. One experiment was with silk threads thickly impregnated with staphylococci, quite virulent. Some of the threads were dry, and others were soaked five minutes in sterile water. They were placed in turn in alcohol, and as they were taken out they were put in bouillon, to make culture. After an hour in the alcohol, the dry thread still showed living cocci, while the wet thread showed that in one minute the staphylococci were destroyed. Better results were obtained from 96 per cent. than with a weaker solution.

Asepsis in Country Practice.—A writer in the *Münch. med. Woch.*, 1895, Nos. 49–51, describes the essentials to be observed where it is impossible to secure the appliances of a clinical amphitheater for an operation. The water to be used in washing hands and the seat of the operation, must have been boiled half an hour, or in case of necessity, he uses the water from a running spring. All brushes must be boiled. He always carries with him antiseptic soap, alcohol and a solution of sublimate, with his previously sterilized bandage material in a Mehler's sterilizing apparatus, as also his handkerchiefs, aprons, silks, drainage tubes, etc. Just before the operation he boils again the cloths, instruments, etc. He prefers Turner's silk or thread to catgut, but he boils them carefully five minutes, before using them. Where possible, he has the room wiped up with a damp cloth two hours before the operation, all curtains, hangings, etc., removed, and the patient bathed in a tub, basin, or even in a bread pan, while all the tables, washing utensils, etc., are carefully cleansed and disinfected. With determination, energy, and infinite pains the difficulties of country practice can thus be overcome, and success crown the operations.

Stricture of the Urethra.—Routier writes to *Méd. Moderne*, 1895, Nos. 21 and 39, reporting 140 cases of stricture of the urethra successfully treated by internal urethrotomy, with a Maisonneuve instrument. He first inserts a stationary catheter for two days and operates on the eighth. Patient is ordered to insert a bougie himself afterward once a week. If the urine is septic, and cultures should be made where there is any suspicion of this, the bladder should be cleansed with a 1 to 1,000

olution of nitrate of silver. External urethrotomy is only ndicated in severe traumatic strictures. Electric treatment s urged by Ferrid, who writes to the *Gaz. Med. di Torino*, 895, Nos. 24 and 26, in regard to twenty cases cured by it with ne treatment each. The positive pole is placed on the abdo- nen and the negative electrode terminates in a Le Fort bougie, nsulated and set in a platinum disc. The bougie is pushed in ntil the disc rests against the stricture, against which it hould be pressed as long as the current is turned on. Very areful preliminary examination should precede this treatment, nd old cicatricial, traumatic or gonorrheal formations should ounter indicate it. The use of sounds for a while afterward s recommended. The current should be at most twenty milli- mpères, and not used longer than four minutes.—*Centralblatt Chir.*, January 25.

Society Notes.

The International Congress of Gynecology and Obstet- ics for 1896, will be held at Geneva the first week in Septem- ber. The subjects announced for discussion are: Gynecology: 1. Treatment of pelvic suppurations. 2. Surgical treatment of uterine retrodeviations. 3. What method of closing the abdo- men seems to offer the best chances against abscesses, even- trations and hernias? Obstetrics: 1. The relative frequence and most common forms of contracted pelvis, according to dif- ferent countries, and groups of countries. 2. Treatment of eclampsia.

Philadelphia Notes.

Carbolic Acid in Surgery. Dr. Oscar H. Allis, at the meeting of the College of Physicians March 4, advocated the use of pure carbolic acid, in melted crystals, brushed over the surface of recent wounds, to relieve pain and facilitate healing. He declared that it did not interfere with primary union, and indorsed the claims made by Dr. Brodnax, of Louisiana, as to its value. Applied to recent burns it acts as an anesthetic and favors repair. Dr. John Ashhurst said that the objection to carbolic acid was that it caused sloughing of the tissues, and Dr. Geo. E. Shoemaker referred to a case where a druggist had applied carbolic acid to a burned finger and the digit had to be amputated on account of sloughing. Dr. Allis said that he had not seen any unfavorable results from its use in his practice.

The University of Pennsylvania is about building a new dental hall, and reorganizing the course of study in this de- partment so as to bring it up to the advanced status of the medical.

Dr. S. Weir Mitchell read his MS. play, "Sir Francis Drake," before the Garrick Club of the University of Penn- sylvania, at Houston Hall, March 9.

A Novel Intoxicant.—An officer saw two boys about 12 years of age staggering along the street, evidently intoxicated. They became unconscious soon after admission to the station house. The district surgeon after considerable effort succeeded in rousing them, and afterward they confessed that their condi- tion was due to inhaling the fumes of gasolin. They had dis- covered by accident that the fumes from a cloth wet with gas- olin, while burning on a fire, was capable of causing dizziness and unconsciousness. They secured the gasolin by robbing some of the public lamps in the first ward, and after dipping a rag in it, they set it afire and inhaled the fumes, with the effects recorded.

Louisville Notes.

Smallpox.—A case of smallpox developed in the person of a young man from the interior of the State, on a visit to this city. He was under observation for several days prior to the recog- nition of the trouble and was removed at once to the Eruptive Hospital, where he died three days later. The house was at once quarantined and disinfected by the Health Officer, and the neighbors and those who had seen the patient were vacci- nated. No new case has been reported.

Porter.—Dr. Porter, one of the colored physicians of Louis- ville, has been appointed third assistant physician to the Lake- land Lunatic Asylum, by the Governor, and his appointment sent to the Legislature for confirmation. He will have charge of the colored inmates, if his appointment is confirmed. An adverse report has been made to the Senate by the Committee, and the chances are that his nomination will be rejected.

Roentgen Rays.—The first practical application of the X rays to surgery in this city was in the person of a patient of Dr. W. O. Roberts. The successful negative was made by Professor Marple, of the Boys' High School after one hour and fifty minutes' exposure, and showed a bullet embedded in the hand, which had baffled any efforts to locate it before. The ball was removed by Dr. Roberts before the class at the Uni- versity of Louisville.

Death Report.—The mortality report for the past week showed a total number of deaths of 68, 12 being due to con- sumption, 6 to pneumonia, 6 to heart disease. There were 4 stillbirths. Four cases of diphtheria and 5 cases of scarlet fever placarded beside the case of smallpox referred to.

Louisville Medical College. The annual commencement of the Louisville Medical College will be held at the Masonic Temple on March 25.

Cincinnati Notes.

The Mortality Report for the week ending March 13 shows: Cerebro-spinal meningitis 2, diphtheria 2, measles 6, typhoid fever 4, whooping cough 3, other zymotic diseases 6; cancer 3, phthisis pulmonalis 16, other constitutional diseases 5; bronchitis 9, gastritis 5, heart disease 4, meningitis 3, pneu- monia 17, other local diseases 24; from developmental diseases 15; violence 2; under 1 year 26, under 5 years 44; total 126; annual rate per 1,000, 18.72. During preceding week 120; corresponding week 1895, 133.

Dr. Chas. H. Castle has been reëlected receiving physi- cian for the City Hospital.

The Academy of Dentistry was organized last Monday night and the following officers elected: President, Dr. I. F. Hussey; Vice-President, Dr. A. I. F. Buxbaum; Secretary, Dr. B. F. Corwin; Treasurer, Dr. W. T. McLean. The society will meet bi-weekly.

The famous "Pascola" case is again revived by the filing of charges against the Pure Food and Dairy Commission and Attorney Amos Dye of this city. Mr. A. J. White, the manu- facturer, alleges that he paid Mr. Dye $5,000 to stop the prose- cution of the Paskola cases in Ohio, and it is also alleged that he received a Yost typewriter as well as a ten-day trip to the East.

Dr. A. Ravogli lectured before the University last Thurs- day upon the subject of Dante's Divina Comedia.

Dr. Francis Dowling lectured on Monday on the "Students of German Universities."

The Academy of Medicine took up the matter of amending the present pure food and dairy laws by a resolution offered by Dr. Allen to indorse the petition of the College of Pharmacy, which urges that the laws be amended so as to read that no arrests shall be made for selling drugs when found to stand a test showing "no material difference from standard." Dr. Allen found that this resolution was going to meet with enthu- siastic opposition from a majority of the members who are opposed to any change in the present laws, and he requested its withdrawal.

Washington Notes.

Health of the District.—From the report of the Health Officer for the week ended March 7, it appears that there was a material decrease in the number of deaths in the District dur- ing the last week as compared with the week preceding. The mortality fell from 139 to 112, with a corresponding decrease in the death rate from 26.2 to 21.1, reaching a point 3.5 per thou- sand less than the death rate during the corresponding week

of last year. Five deaths from measles indicate the continued prevalence of that disease. One death occurred from typhoid fever, and two from diphtheria. There were four fatal cases of la grippe, and ten from diseases of the kidneys. Consumption and pneumonia maintained their recent high death rate, thirteen deaths having occurred from the former and twenty from the latter. Seven new cases of diphtheria were reported during the week and six houses were released from quarantine; at the close of the week seventeen premises were still placarded on account of this disease. Of scarlet fever, six new cases were reported and six houses were released from quarantine; seventeen houses remained placarded.

THE CENTRAL DISPENSARY AND EMERGENCY HOSPITAL.—At the regular meeting of the Board of Directors of the Hospital the following report of the work done by the staff during February was received: Number of new cases 895; total number of visits 2,818; number of prescriptions compounded 3,877; number of operations performed 105; deaths 7; autopsies 4; ward patients 54; ambulance calls 34; emergency cases 206; number of redressings in ward 137; in emergency room 160.

AN ASSISTANT PATHOLOGIST WANTED.—The United States Civil Service Commission will hold an examination, beginning at 9 A.M., on March 31, to fill a vacancy in the position of Assistant Pathologist, Department of Agriculture, at a salary of $1,200 per annum. The subjects of the examination will be plant pathology, systematic mycology, microscope technique, German and French. Persons desiring to compete should obtain application blanks from the Civil Service Commission and file their applications at once.

THE INEBRIATE ASYLUM ACT.—The House has passed the bill directing "That the Commissioners of the District of Columbia are hereby authorized and directed to establish and maintain within said District a hospital for inebriates, for the treatment and cure of persons suffering from the habitual excessive use of alcoholic liquors, opium and cocain, which said hospital shall be a public institution of the District of Columbia and under the control of said Commissioners."

TO REGULATE MEDICAL COLLEGES AND TESTIMONY OF PHYSICIANS.—A favorable report was ordered on Senate bill 913, providing for the incorporation and regulation of medical colleges in the District, formulated by the Commissioners. Similar action was taken on the bill introduced by Mr. Morrill, Senate 981, relating to the testimony of physicians in the courts of the District, with the amendment to provide that physicians shall not be obliged to give any information of a confidential character.

FOR THE EASTERN DISPENSARY.—The Commissioners have recommended favorable action on Senate bill 2425, for the purchase of the Eastern Dispensary and Hospital property, at a cost of $10,000.

AGAINST THE ANTI-VIVISECTION BILL.—Mr. Faulkner (for Mr. Smith) presented the memorial of William B. Graves and twenty-four other physicians of Essex County, N. J., remonstrating against the enactment of legislation providing for the further prevention of cruelty to animals in the District of Columbia; which was referred to the Committee on the District of Columbia. The society held a meeting on the 6th inst., and adopted resolutions to this effect, in which they declared that this bill "is mischievous in character and calculated to impede scientific research, and to hamper and discourage physicians in their efforts to discover the true causes of disease, and ascertain the best remedies for the alleviation of human suffering." The petitioners go on: "The basis of the great advance in the science of medicine is the study of disease in the lower animals, as well as in man. In view of the splendid achievements in this line, it is better that many of the brute creation should be sacrificed rather than that one human life should be lost, and we respectfully urge that every honorable means should be employed to defeat a bill whose passage would tend to vastly increase instead of diminish the sum total of suffering and disease among both men and animals."

PROPOSED SEWER CONNECTION BILL.—The Commissioners have sent a bill to Congress providing compulsory sewer connections with all improved lots, and giving the Health Officer authority to compel sewer connections for all unimproved lots when he deems them necessary for the public health. The proposed bill provides that the Commissioners shall notify the owner of every lot, required in the act, to be connected. If the connection is not made within thirty days the owner may be fined in the police court $5 a day for every day he neglects to comply. If the owner of the property can not be found then the District may do the work and charge the cost as taxes against the property.

MEDICAL SOCIETY.—At the meeting of the society, held on the 11th inst., Dr. J. T. Johnson gave the histories of seven cases of hysterectomy and presented the specimens. Dr. Du... four read a paper on the relations of general disease to the for... mation of cataract. Dr. Chas. W. Richardson reported a death from the lodging of a foreign body in the esophagus which produced an abscess that burst into the pleural cavity.

THE PUBLIC SERVICES.

General Orders, No. 9.

HEADQUARTERS OF THE ARMY, ADJUTANT GENERAL'S OFFICE,
WASHINGTON, March 13, 1896.

By direction of the Secretary of War, the special instruction in the duties of litter bearers and the method of rendering first aid to the sick and wounded, directed in paragraph 1413, Army Regulations, will hereafter be given to all enlisted men of the Army by their company officers, for at least four hours in each month. Company commanders will be supplied from the Surgeon-General's Office with the Drill Regulations for the Hospital Corps; and the surgeon of the post, under the direction of the post commander, will thoroughly instruct such captains as may volunteer therefor and all lieutenants serving with troops in the professional knowledge required.

By command of Major General Miles:

GEO. D. RUGGLES, Adjutant General.

Army Changes. Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from March 7 to 13, 1896.

Major Joseph K. Corson, Surgeon U. S. A. (Ft. D. A. Russell, Wyo.), leave of absence granted for seven days is extended twenty-three days.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending March 14, 1896.

Medical Inspector J. B. Parker, ordered to duty in charge of naval hospital, Widow's Island, in addition to present duties.

Surgeon Thomas Owens, placed on the retired list March 10.

Surgeon W. R. DuBose, detached from the naval academy and ordered to the "Terror."

Change of Address.

Preston, B. I., from 65 N. Stout St., to 31 Meigs St., Rochester, N. Y.

LETTERS RECEIVED.

Alford, J. B., Grand Rapids, Ohio; Ammonol Chemical Co., New York, N. Y.; Alta Pharmacal Co., St. Louis, Mo.

Brewer, C. H., Omaha, Neb.; Blodgett, F. J., New York, N. Y.; Buechner, W. H., Cleveland, Ohio; Brothers, Samuel, New York, N. Y.; Bulette, W. W., Pueblo, Col.; Bell, J. W., Kerrville, Tex.; Battle, Lewis J., Washington, D. C.

Chicago Policlinic, Chicago, Ill.; Cossitt, Will S., Milwaukee, Wis.; Cox, Wm. C., New York, N. Y., Comegys, C. G., Cincinnati, Ohio; Chase, Arthur H., Concord, N. H.

Edwards, Edward, Venedocia, Ohio; Elliott, A. R., New York, N. Y.; Ensign, W. O., Rutland, Ill.

Frickman, O. A., Cincinnati, Ohio.

Gayden, A., Jackson, La.; Goode, B. P., (2) Cincinnati, Ohio; Gittelson, S. J., Philadelphia, Pa.

Holland, P. L., (2) Chicago, Ill.; Harrison, Jas. N., Salt Lake City, Utah; Haven, O. D., Youngstown, Ohio; Hummel, A. L., Advertising Agency, (2) New York, N. Y.

Irwin, J. P., Peoria, Ill.

Jewett, H. S., Dayton, Ohio.

Long Island Bottling Co., Brooklyn, N. Y.

McBride, R. E., New Orleans, La.; McGarvey, J. F., Lorain, Ohio; Morris, E. W., Birmingham, Ala.; Mattison, J. H., Buffalo, N. Y.; Moon, W. H., Goodwater, Ala.; Maltine Mfg. Co., The, New York, N. Y.; Malsbury, L. O., Peru, Ind.

New York Academy of Medicine, New York.

Pantagraph Printing and Stationery Co., Bloomington, Ill.; Prince, L. H., Chicago, Ill.

Reed, R. Harvey, Columbus, Ohio; Reed & Carnwick, New York, N. Y.; Roberts, J. Sidney, Philadelphia, Pa.; Regar Co., The Geo. H., Philadelphia, Pa.

Saunders, W. B., (2) Philadelphia, Pa.; Stearns, F. & Co., Detroit, Mich., Shastid, T. H., Galesburg, Ill.; Simpson, Irwin, Anamosa, Iowa; Sweet, C. L., Boise, Idaho; Smith, H. M., East Las Vegas, N. M.; Towler, S. S., Marienville, Pa.

Toner, J. M., Washington, D. C.

Walker, R. J., Troy, N. Y.; Wandless, Henry W., Dallas, Texas; Warner, W. R., Philadelphia, Pa.; Wingate, U. O. B., Milwaukee, Wis.; Winn, J. F., Richmond, Va.; Wheelock, K. K., Fort Wayne, Ind.

Zaratt, J., Philadelphia, Pa.